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A CONCISE ECONOMIC HISTORY OF THE WORLD

*From Paleolithic Times
to the Present*

FIFTH EDITION

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Europe's Recovery and Discovery of the Rest of the World

Sometime around the middle of the fifteenth century, after a century of decline and stagnation, Europe's population began to grow once more. Neither the revival nor rates of growth were uniform throughout Europe (as always, there was regional diversity), but by the beginning of the sixteenth century the demographic increase was generalized. It continued unabated throughout the sixteenth century, possibly even accelerating in the latter decades. Early in the seventeenth century, however, this lusty growth encountered the usual Malthusian checks of famine, plague, and war that raise concerns about overpopulation. Climatologists suggest that yet another climatic change, the "Little Ice Age" lasting from the middle of the sixteenth century to the middle of the twentieth century, made life even more difficult throughout the Northern Hemisphere. Political responses to repeated shocks of failed harvests, plagues, or invasions often led to further loss of population, especially in central Europe during the Thirty Years' War (1618–1648) and in China during the transition from the Ming to Qing dynasties (1619–1683). By the middle of the seventeenth century, with a few exceptions, notably Holland, the population growth had ceased and in some areas actually declined. These termini—roughly the middle of the fifteenth and the middle of the seventeenth centuries—delimit Europe's second growth spurt. Within them, other important changes, some probably fortuitous and others intimately related to the demographic phenomena, occurred. At the latter date the European and global economies were vastly different from what they had been in the fifteenth century.

The most obvious difference was the greatly expanded geographical horizons. The period of demographic increase corresponded almost exactly with the great age of maritime exploration and discovery that resulted in the establishment of all-water routes between Europe and Asia and, in an even more momentous development for world history, the conquest and settlement of the Western Hemisphere by Europeans. These events in turn provided Europe with a greatly expanded supply of resources, both actual and potential, and provoked (together with other causes) significant institutional changes in the European economy, especially with respect to the role of government in the economy.

Another major difference was a pronounced shift in the location of the principal centers of economic activity within Europe. In the fifteenth century the cities of

northern Italy retained the leadership in economic affairs they had exercised throughout the Middle Ages. The Portuguese discoveries, however, deprived them of their monopoly on the spice trade. A series of wars involving the invasion and occupation of Italy by foreign armies further disrupted commerce and finance. The decline of Italy was not immediate or drastic, for the Italians had reservoirs of capital, entrepreneurial talent, and highly refined economic institutions to carry them for several generations. In any case, Italy's decline was probably more relative than absolute because of the great increase in the volume of European commerce. Nevertheless, by the middle of the seventeenth century Italy had fallen into the backwaters of the European economy, from which it did not fully emerge until the twentieth century.

Spain and Portugal enjoyed a fleeting glory as the leading economic powers of Europe. Lisbon replaced Venice as the great entrepôt of the spice trade, and the Spanish Habsburgs, financed in part by the gold and silver of their American empire, became the most powerful monarchs in Europe. The wealth of the Indies and the Americas was not widely shared within the countries, however; as a result of policies to be described and analyzed in greater detail subsequently, the governments of those countries wasted their resources and stifled the development of vigorous and dynamic economic institutions. Although both nations retained their extensive overseas empires until the nineteenth and twentieth centuries, respectively, they were already in full decline, economically, politically, and militarily, by the middle of the seventeenth century.

Central, eastern, and northern Europe did not participate significantly in the commercial prosperity of the sixteenth century. The German Hansa flourished in the fifteenth century but declined thereafter. Although the main causes of its decline were independent of the great maritime discoveries, the latter probably hastened the decline by strengthening the commercial power of Dutch and English cities. Southern Germany and Switzerland, which had also become commercially prominent in the fifteenth century, retained their prosperity for a time, but since they were no longer on the most important trade routes and had no ports to benefit from the increase in seaborne trade, they slipped backward, relatively speaking, along with the rest of central and eastern Europe. All of central Europe soon plunged into religious and dynastic wars that sapped its energy for economic activity.

The area that gained most from the economic changes associated with the great maritime discoveries was the region bordering on the North Sea and the English Channel: the Low Countries, England, and northern France. Opening on the Atlantic and lying midway between northern and southern Europe, this region prospered greatly in the new era of worldwide oceanic commerce. Throughout the sixteenth century, however, France also engaged in dynastic and religious wars, civil and international, and for the most part its government followed policies unfavorable to business and agriculture. France therefore gained less than the Netherlands and England during this period.

England at the time of the great discoveries was just emerging from a backward, raw materials-producing area into something of a manufacturing country. Its agriculture was also becoming more market oriented. The Wars of the Roses (1455–1487) decimated the ranks of the great nobility but left the urban middle classes and peasants almost untouched. The decline of the great nobility enhanced the

Mediterranean population thereafter. What caused this growth and the renewed stagnation and decline?

The growth in population in the sixteenth century, although general, was by no means uniform. Beginning with unequal densities and growing at different rates, the populations of the various regions of Europe varied considerably in density at the end of the sixteenth century. Italy, a "mature" economy, and the Netherlands, a dynamic one, had the greatest densities, with 40 or more persons per square kilometer, although some areas, such as Lombardy and the province of Holland, had 100 or more. France, with approximately 18 million people, had a density of about 34 per square kilometer; England and Wales, with 4 or 5 million, had slightly less. Elsewhere the population was spread more thinly: 28 per square kilometer in Germany, 17 in Spain and Portugal, 14 in eastern Europe exclusive of Russia, and only about 1.5 or 2 in Russia and the Scandinavian countries. For purposes of comparison the European Union in recent years had about 116 persons per square kilometer, ranging from a high of nearly 500 in the Netherlands to under 18 in Finland and 23 in Sweden.

As indicated in Chapter 3, these figures clearly show that population density was closely related to the productivity of agriculture. Similar differences are found within countries. For example, Württemberg, one of the most advanced agricultural regions of Germany, had a density of 44 per square kilometer. Southern England was far more densely populated than Wales or the northern part of the country, as was northern France and the Mediterranean coastal regions of Provence and Languedoc compared to the mountainous and infertile Massif Central. The sparsely populated plateaus of Aragon and Castile contrasted with the teeming valleys and lowlands of Andalusia and Valencia, as did the Apennines and the Alpine regions of Italy with the Po Valley and the Roman Campagna. Streams of migrants from the mountainous and infertile regions came regularly to the more densely populated plains and lowlands.

But the plains and lowlands also became crowded. In areas with partible inheritance the plots of land became smaller and smaller, meaning that young adults increasingly left the countryside to seek employment in the cities. The literature of Elizabethan England carries frequent references to "sturdy beggars" on the highways and in city streets, beggars whose poverty often drove them to crime. The colonial empires of Spain and Portugal provided one outlet for their excess population—indeed, there were even complaints of labor shortages—and in northern Europe the acquisition of colonies was advocated as a means of dealing with the surplus population. For Europe as a whole, however, overseas migration in the sixteenth and seventeenth centuries was almost negligible; most migrations were domestic, even local.

One consequence of those migrations was that the urban population grew more rapidly than the total. The populations of both Seville and London tripled between 1500 and 1600 (to about 150,000 in both cases), while that of Naples doubled (to perhaps 250,000). The population of Paris, already the largest city in Europe, with more than 200,000 inhabitants, also increased to about a quarter of a million. Amsterdam grew from about 10,000 at the end of the fifteenth century to more than 100,000 in the early decades of the seventeenth century. (All of these figures are approximate.) Although the percentage rise in the urban population was also general,

importance of the lesser aristocracy, the gentry. The new Tudor dynasty, which came to the throne in 1485, depended heavily on gentry support and granted it favors in return. For example, when Henry VIII revolted against the Roman church and decreed the dissolution of the monasteries, the gentry were the principal beneficiaries, after the crown itself. The action also had the incidental effect of improving the operation of the land market and encouraging the market orientation of agriculture.

Flanders, already the most economically advanced area in northern Europe, recovered slowly from the great depression of the late Middle Ages. Bruges gradually declined as the principal entrepôt for trade with southern Europe, and Antwerp rose to become the most important port and market city in Europe in the first half of the sixteenth century. As a result of dynastic alliances all seventeen provinces of the Low Countries, from Luxembourg and Artois in the south to Friesland and Groningen in the north, fell to the crown of Spain early in the sixteenth century. They were thus in an excellent position to capitalize on the trading opportunities of the Spanish Empire. In 1568, however, the Netherlands revolted against Spanish domination. Spain suppressed the revolt in the southern provinces (modern Belgium), but the seven northern provinces won their independence as the United Netherlands, or Dutch Republic. Economically this episode resulted in a relative decline of the southern provinces, partly because the Spanish government enacted many harsh punitive measures in these areas and partly because the Dutch, who controlled the mouth of the Scheldt River, prevented ships from going to Antwerp. Trade shifted to the north, and Amsterdam became the great commercial and financial metropolis of the seventeenth century.

Technological changes in the arts of navigation and shipbuilding were vital to the success of exploration and discovery. The introduction of gunpowder and its application by Europeans to firearms were similarly vital to the success of European conquests overseas. There were concurrent improvements in the arts of metallurgy and some other industrial processes. On the whole, however, the period is not notable for its technological progress. In particular, no major breakthroughs occurred in agricultural technology, such as the introduction of the three-field system and the heavy wheeled plow, although a host of minor improvements were made in crop rotation, new crops, and extensive drainage systems, following the Dutch example of creating polders from salt marshes.

Population and Levels of Living

In the middle of the fifteenth century the population of Europe as a whole was on the order of 70 million, not yet reaching its pre-plague peak of 80 million. By the middle of the seventeenth century, the population was 105 million, having fallen from a peak of about 110 million before the outbreak of the Thirty Years' War. Dividing Europe into three major zones—the Mediterranean littoral, the northwest, and the east—the northwest population had overtaken that of the Mediterranean around 800 CE and continued to be the most densely populated and most prosperous region of Europe thereafter. By 1625, however, the population of the lightly populated east had recovered fastest of all Europe and exceeded in total size the

it was more pronounced in northern Europe than in the Mediterranean lands, which were already more urbanized at the beginning of the period. By the end of the sixteenth century about one-third of the population of Flanders and almost half that of Holland lived in towns and cities.

An increase in the urban population is usually a favorable indicator of economic development, although this was not necessarily so in the sixteenth century. At that time towns functioned primarily as commercial and administrative rather than industrial centers. Many manufacturing activities, as in the textile and metallurgical industries, took place in the countryside. The handicrafts practiced in the towns were usually organized in guilds, with long apprenticeship requirements and other restrictions on entry. Rural migrants rarely had the skills or aptitudes necessary for urban occupations. In the towns they formed a *lumpenproletariat*, a pool of casual, unskilled laborers who were frequently unemployed and supplemented their meager earnings by begging and petty thievery. Their crowded, dirty, and squalid living conditions endangered the whole community by making it more susceptible to epidemic disease.

The plight of both the urban and the rural poor was aggravated by a prolonged fall in real wages. Because the population grew more rapidly than agricultural output, the price of foodstuffs, bread grains in particular, rose more rapidly than money wages, a situation that was exacerbated by the phenomenon of the "price revolution" (see "The Price Revolution" section later in this chapter). By the end of the sixteenth century the pressure of population on resources was extreme, and in the first half of the seventeenth century a series of bad harvests, new outbreaks of the bubonic plague and other epidemic diseases, and the increased incidence and ferocity of warfare, especially that associated with the Thirty Years' War, brought the population expansion to a halt. In several areas of Europe, notably Spain, Germany, and Poland, population actually declined during part or all of the seventeenth century.

Exploration and Discovery

There is no reason to suppose that there was any intimate causal relationship between the demographic phenomena in Europe and the maritime discoveries that led to the establishment of direct commerce between Europe and Asia and the conquest and settlement of the New World by Europeans. Population growth was already underway before the significant discoveries occurred, extra-European commerce in the sixteenth and seventeenth centuries was minor in comparison with intra-European commerce, and the importation of foodstuffs (other than spices) was negligible. Nevertheless, the discoveries profoundly affected the course of economic change in Europe. While the recovery of population in western Europe simply reinforced the north-south trade patterns that had already been established in medieval times, the recovery of trade after the Black Death took place on sea routes via the Atlantic Ocean rather than overland as in medieval times. Moreover, improvements in sail technology designed to reduce the labor requirements for long-distance voyages and allow larger cargoes created the possibilities needed for the discoveries overseas. Europe, and the rest of the world, would never be the same.

Notable technological progress in ship design, shipbuilding, and navigational instruments occurred in the later Middle Ages. Three-, four-, and five-masted ships, with combinations of square and lateen sails capable of sailing across the wind, replaced the oared galleys with auxiliary sails of medieval commerce. The hinged sternpost rudder replaced the steering oar. In combination, these changes provided far greater maneuverability and directional control and dispensed with oarsmen. Ships became larger, more manageable, and more seaworthy, and had greater cargo capacity, enabling them to make longer voyages. The magnetic compass, probably borrowed from the Chinese by way of the Arabs, significantly reduced the guesswork involved in navigation. Developments in cartography provided greatly improved maps and charts.

The Italians were early leaders in the art of navigation, a leadership that they did not quickly relinquish, as exemplified by the names Columbus (Colombo), Cabot (Caboto), Vespucci, Verrazzano, and others. As early as 1291 a Genoese expedition using oared galleys started down the west coast of Africa in an attempt to reach India by sea, never to be seen again. But the Italians were conservative in ship design, and the lead was soon taken by those who sailed the open sea, especially the Flemish, Dutch, and Portuguese. The Portuguese, in particular, seized the initiative in all aspects of the sailor's art: ship design, navigation, and exploration (Figs. 5-1 and 5-2). The vision and energy of one man, Prince Henry, called the Navigator, were chiefly responsible for the great progress in geographical knowledge and discovery made by Europeans in the fifteenth century.

Henry (1393-1460), a younger son of the king of Portugal, devoted himself to encouraging the exploration of the African coast with the ultimate object of reaching the Indian Ocean. At his castle on the promontory of Sagres at the southern tip of Portugal he established a sort of institute for advanced study to which he brought astronomers, geographers, cartographers, and navigators of all nationalities. From 1418 until his death he sent out expeditions almost annually. Carefully and patiently his sailors charted the coast and currents, discovered or rediscovered and colonized the islands of the Atlantic, and established trade relations with the native chiefs of the African coast. Henry did not live to realize his greatest ambition. In fact, at the time of his death his sailors had gone little farther than Cape Verde, but the scientific and exploratory work carried out under his patronage laid the foundations for subsequent discoveries.

After Henry's death exploratory activity slackened somewhat for lack of royal patronage and because of the lucrative trade in ivory, gold, and slaves that Portuguese merchants carried on with the native kingdom of Ghana. King John II, who came to the throne in 1481, renewed the explorations at an accelerated pace. Within a few years his navigators had pushed almost to the tip of Africa. Realizing that he was on the verge of success, John sent out two expeditions in 1487. Down the coast went Bartholomew Diaz, who rounded the Cape of Good Hope (which he named the Cape of Storms) in 1488, through the Mediterranean and overland to the Red Sea went Pedro de Covilhão, who reconnoitered the western edges of the Indian Ocean from Mozambique in Africa to the Malabar Coast of India. The way was paved for the next and greatest voyage, that of Vasco da Gama from 1497 to 1499 around Africa to Calicut in India. As a result of disease, mutiny, storms, and difficulties with both



FIGURE 5-2. A Portuguese carrack. These large, unwieldy ships, designed especially for the long voyage to India, replaced the smaller, more maneuverable caravels that had carried out most of the exploration of the African coast during the fifteenth century. (From HIP/Art Resource, NY.)

Columbus persevered. He appealed to the Spanish monarchs, Ferdinand and Isabella, who were engaged at the time in a war against the Moorish kingdom of Granada and had no money to spare for such an unlikely scheme. Columbus tried to interest the realistic and economical King Henry VII of England, as well as the king of France, but in vain. At length, in 1492, Ferdinand and Isabella conquered the Moors, and as a sort of victory celebration Isabella agreed to underwrite an expedition. Columbus set sail on August 3, 1492, and on October 12 sighted the islands later known as the West Indies. Columbus truly thought he had reached the Indies. Though dismayed by their obvious poverty, he dubbed the inhabitants Indians. After a few weeks of reconnoitering among the islands he returned to Spain to spread the joyful tidings. The following year he returned with seventeen ships, 1,500 men, and enough equipment (including cattle and other livestock) to establish a permanent settlement. Altogether Columbus made four voyages to the western seas and persisted to the end in the belief that he had discovered a direct route to Asia.

Immediately following the return of the first expedition, Ferdinand and Isabella applied to the pope for a "line of demarcation" to confirm Spanish title to the newly



his Hindu hosts and the numerous Arab merchants he encountered, da Gama lost two of his four ships and almost two-thirds of his crew. Nevertheless, the cargo of spices with which he returned sufficed to pay the cost of his voyage many times over.

Seeing such profits, the Portuguese lost no time in capitalizing on their advantage. Within a dozen years they had swept the Arabs off the Indian Ocean and established fortified trading posts from Mozambique and the Persian Gulf to the fabled Spice Islands, or Moluccas. In 1513 one of their ships put in at Canton in South China, and by midcentury they had opened trading and diplomatic relations with Japan.

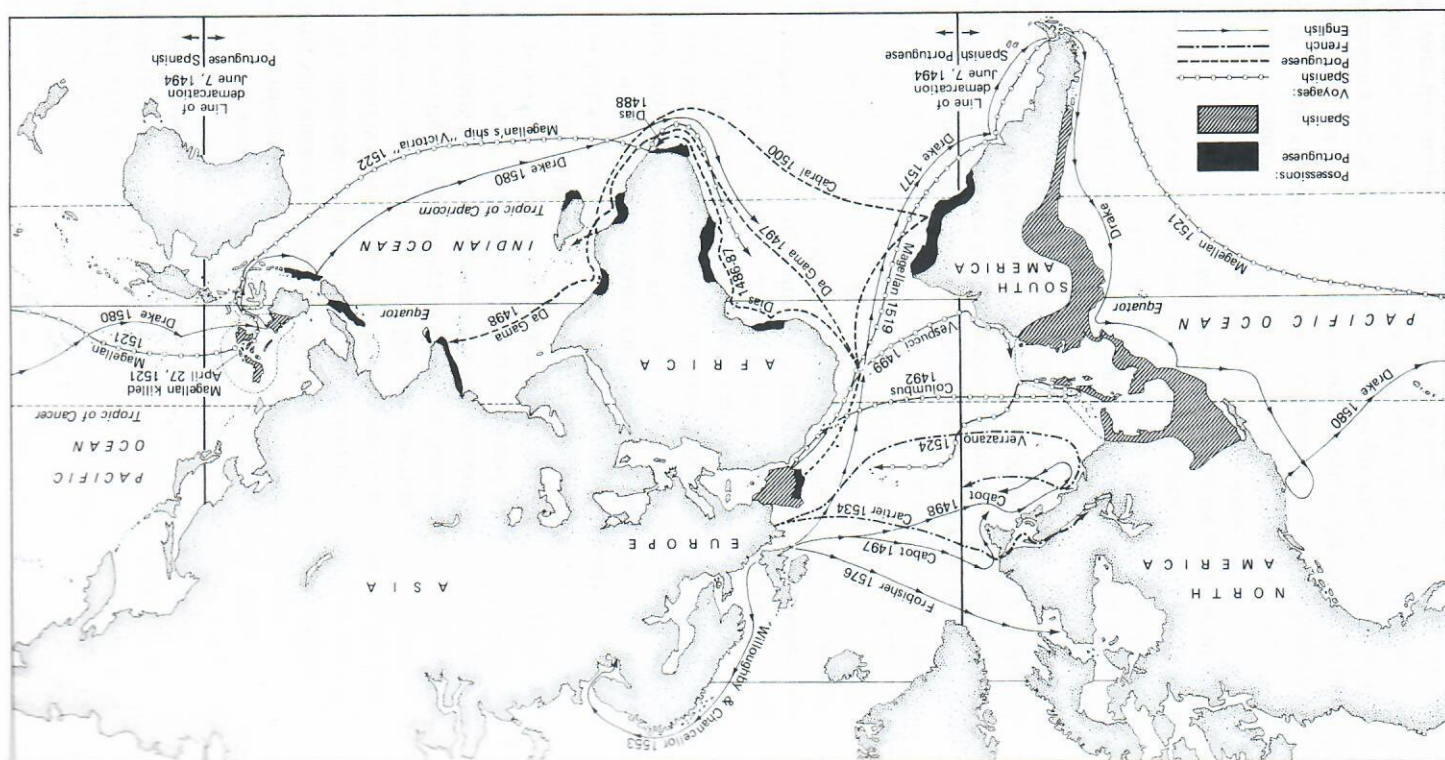
In 1483 or 1484, while the crews of John II were still working their way down the African coast, a Genoese who had sailed in Portuguese service and married a Portuguese woman asked the Portuguese king to finance a voyage across the Atlantic to reach the East by sailing west. Such a proposal was not entirely novel. General

discovered lands. This line, running from pole to pole at a longitude 100 leagues (about 330 nautical miles) west of the Azores and the Cape Verde Islands, divided the non-Christian world in half for the purpose of further exploration, with the western half reserved for the Spanish and the eastern half for the Portuguese. The next year, 1494, in the Treaty of Tordesillas the Portuguese king persuaded the Spanish rulers to set the line about 210 nautical miles farther west than the 1493 line. This suggests that the Portuguese may have already known of the existence of the New World, for the new line placed the hump of South America—the beachhead that later became Brazil—in the Portuguese hemisphere. In 1500, on the first major Portuguese trading voyage after da Gama's return, Pedro de Cabral sailed directly for the hump and claimed it for Portugal before proceeding to India.

Meanwhile explorers of other nations followed up the news of Columbus's discovery with discoveries of their own (Fig. 5-3). In 1497 John Cabot, an Italian sailor who lived in England, secured the backing of Bristol merchants for a voyage on which he discovered Newfoundland and Nova Scotia. The following year he and his son Sebastian led a larger expedition to explore the northern coast of North America, but since they brought back no spices, precious metals, or other marketable commodities, their commercial backers lost interest. Cabot also failed to persuade Henry VII to provide financial support, though the king did give him a modest reward of ten pounds for planting the English flag in the New World. French merchants sent another Italian, Giovanni da Verrazzano, to discover a western passage to India in the 1520s. A decade later the Frenchman Jacques Cartier made the first of three voyages that resulted in the discovery and exploration of the St. Lawrence River. Cartier also claimed for France the area later known as Canada, but, failing to find the hoped-for passage to India, the French, like the English, evinced no further immediate interest in the New World except for fishing on the Grand Banks of Newfoundland.

In 1513 the Spaniard Vasco Núñez de Balboa discovered the "South Sea," as he called the Pacific Ocean, beyond the Isthmus of Panama. By the 1520s Spanish and other navigators had explored the entire eastern coast of the two Americas from Labrador to Rio de la Plata. It became increasingly clear not only that Columbus had not discovered the Indies but that there was no easy passage through the center of the new continent. In 1519 Ferdinand Magellan, a Portuguese who had sailed in the Indian Ocean, persuaded the king of Spain to let him lead an expedition of five ships to the Spice Islands by way of the South Sea. Magellan had no thought of circumnavigating the globe, for he expected to find Asia a few days' sailing beyond Panama, within the Spanish orbit as determined by the Treaty of Tordesillas. His main problem, as he saw it, was to find a passage through or around South America. This he did, and the stormy, treacherous strait he discovered still bears his name. The "peaceful sea" (Mare Pacificum) into which he emerged, however, yielded not riches but long months of starvation, disease, and eventually death for him and most of his crew. The remnants of his fleet wandered aimlessly in the East Indies for several months. At length one of Magellan's lieutenants, Sebastian del Cano, took the one surviving ship through the Indian Ocean and home to Spain, with its skeleton crew becoming the first men to sail entirely around the Earth.

FIGURE 5-3. World voyages of discovery, fifteenth and sixteenth centuries.



Overseas Expansion and the Feedback to Europe

The first century of European overseas expansion and colonial conquest—that is, the sixteenth century—belonged almost exclusively to Spain and Portugal. The eminence these two nations have achieved in history is a result mainly of their pioneering roles in the discovery, exploration, and exploitation of the non-European world. Before the sixteenth century they had been outside the mainstream of European civilization; afterward their power and prestige declined rapidly until, by the beginning of the nineteenth century, they had sunk into a state of somnolence approaching suspended animation. In the sixteenth century, however, their dominions were the most extensive and their wealth and power the greatest in the world.

By 1515 the Portuguese had made themselves masters of the Indian Ocean. Vasco da Gama returned to India in 1501 with instructions to halt the Arab trade to the Red Sea and Egypt by which the Venetians had obtained spices for distribution in Europe. In 1505 Francisco de Almeida was named the first Portuguese viceroy of India. He captured or established several cities and forts on the East African and Indian coasts and in 1509 completely destroyed a large Muslim fleet in the Battle of Diu. In the same year Alfonso de Albuquerque, greatest of the Portuguese viceroys, assumed his duties and completed the subjugation of the Indian Ocean. He captured Ormuz at the entrance to the Persian Gulf and established a fort at Malacca on the narrow strait between the Malay Peninsula and Sumatra, a post that controlled the passage to the Celebes and the Moluccas, from which the most valuable spices came. Finally, in 1515, he captured Ceylon, the key to the mastery of the Indian Ocean. His attempt to capture Aden at the entrance to the Red Sea was repulsed, however, and the Portuguese were unable to maintain an effective monopoly on the spice trade for long. Albuquerque established his capital at Goa on the Malabar Coast; Goa and Diu remained Portuguese possessions until 1961. The Portuguese also established trade relations with Siam and Japan. In 1557 they established themselves at Macao on the south coast of China and held it until 1999, the last European colony in Asia. Portugal's global imperial strategy followed naturally from its success in reconquering Portugal from the Moors by capturing and maintaining control of successive ports. Consequently, the Portuguese did not attempt to conquer or colonize the interiors of India, Africa, or South America, but contented themselves with controlling the sea-lanes from strategic fortified ports.

Although at first it looked less promising, the Spanish Empire eventually proved to be even more profitable than that of Portugal. Disappointed in their quest for spices and stimulated by a few trinkets plundered from the savages in the islands of the Caribbean, the Spanish quickly turned to a search for gold and silver. Their continued efforts to find a passage to India soon revealed the existence of wealthy civilizations on the mainland of Mexico and in northern South America. Between 1519 and 1521 Hernando Cortez effected the conquest of the Aztec Empire in Mexico. Francisco Pizarro conquered the Inca Empire in Peru in the 1530s. By the end of the sixteenth century the Spanish wielded effective power over the entire hemisphere, from Florida and southern California in the north to Chile and the Rio de la Plata in the south (with the exception of Brazil). At first they merely plundered the original inhabitants of their existing movable wealth; when this source was quickly exhausted

they introduced European mining methods to the rich ore deposits of Mexico and the Andes.

The Spanish, unlike the Portuguese, undertook from the beginning to colonize and settle the areas they conquered. The Spanish reconquest of Iberia had proceeded by retaking successively major cities, both coastal and inland, and then reorganizing them as military compounds with local powers of taxation and the responsibility of maintaining civil order. In their overseas conquests, the Spanish brought European techniques, equipment, and institutions (including their religion) to the New World and imposed them by force on the Indian population. Besides European culture and manufactures, the Spanish introduced natural products previously unknown to the Western Hemisphere, including wheat and other cereal grains except corn, which traveled in the opposite direction), sugarcane, coffee, most common vegetables and fruits (including citrus fruits), and many other forms of plant life. The pre-Columbian Indians of America had no domesticated animals except dogs and llamas. The Spanish introduced horses, cattle, sheep, donkeys, goats, pigs, and most domesticated fowls.

Some other features of European civilization that were introduced into America, such as firearms, alcohol, and the European diseases of smallpox, measles, and typhus, spread quickly and with lethal effect. The native population may have numbered as many as 25 million at the time of Columbus (with some scholarly estimates ranging much higher), but by the end of the sixteenth century these killers had reduced it to only a few million. To remedy the shortage of labor the Spanish introduced African slaves to the Western Hemisphere as early as 1501. By 1600 a majority of the population of the West Indies were Africans and people of mixed races; slaves were not as important on the mainland, except in Brazil and northern South America.

The transplantation of European culture, together with the modification and occasional extinction of non-Western cultures, were the most dramatic and important aspects of the expansion of Europe. But expansion also produced feedback, and European culture itself underwent substantial modifications as a result.

On the economic side expansion resulted in a great increase in the volume and variety of goods traded. In the sixteenth century spices from the East and bullion from the West accounted for an overwhelming proportion of imports from the colonial world. As late as 1594, for example, 95 percent of the value of legal exports from the Spanish colonies in the New World consisted of gold and silver bullion. Nevertheless, other commodities entered the stream of trade, gradually expanded in volume, and by the seventeenth and eighteenth centuries overshadowed the original overseas exports to Europe. Exotic dyestuffs such as indigo and cochineal added color to European fabrics and made them gayer and more salable both in Europe and overseas. Coffee from Africa, cocoa from America, and tea from Asia became staple European beverages. Cotton and sugar, although they were known earlier in Europe, had never been produced or traded on a large scale. When sugarcane was transplanted to America, the production of sugar increased enormously and brought that delicacy within the budget of ordinary Europeans. The introduction of cotton goods from India, at first a luxury reserved for the wealthy, led eventually to the establishment of one of Europe's largest industries, dependent on raw material imported from

America and catering especially to the masses. Chinese porcelain had a similar history. Tobacco, one of America's most celebrated and controversial contributions to civilization, grew rapidly in popularity in Europe in spite of determined efforts by both church and state to stamp it out. In later years tropical fruits and nuts supplied European diets, and furs, hides, exotic woods, and new fibers constituted important additions to European supplies.

Many foodstuffs previously unknown in Europe, although not imported in large quantities, were introduced and naturalized, eventually becoming important staples of diet. From America came potatoes, tomatoes, string beans, squash, red peppers, pumpkins, and corn (called maize by Europeans), as well as the domesticated turkey, which in spite of its name reached Europe from Mexico. Rice, originally from Asia, also became naturalized in both Europe and America.

The Price Revolution

The flow of gold and especially silver from the Spanish colonies greatly increased Europe's supplies of monetary metals, at least tripling them in the course of the sixteenth century. The Spanish government attempted to forbid the export of bullion, but this proved impossible. In any case, the government was itself the worst offender, sending vast quantities of gold and silver to Italy, Germany, and the Netherlands to repay its debts and finance its interminable wars. From those countries, as well as from contraband movements within Spain, the precious metals spread throughout Europe. The most immediate and obvious result was a spectacular and prolonged (but irregular) rise in prices. By the end of the sixteenth century prices were, in general, about three or four times higher than they had been at the beginning. Of course, the rise in price varied greatly from region to region and by commodity groups. Prices rose earlier and higher in Andalusia, whose ports were the only legal entrepôts for American gold and silver, than in distant and backward Russia. The price of foodstuffs, especially grain, flour, and bread, rose higher than those of most other commodities. In general, the rise in money wages lagged far behind the rise in commodity prices, resulting in persistent declines in real wages in Spain and, to a lesser extent, in Italy and France. For reasons explored later, real wages in southern England and Holland remained higher than in southern Europe, even if they also fell somewhat. The difference in real wages created a divergence between northern and southern Europe, one that would only increase in coming centuries.

The phenomenon of the price revolution has given rise to innumerable seemingly endless and mostly unnecessary scholarly discussions concerning its mechanisms, consequences, and even causes. It has been pointed out that a rise in silver production in central Europe beginning in the latter part of the fifteenth century and imports of gold from Africa by the Portuguese added to the money stock and contributed to the price rise. Monetary debasements by impecunious and unscrupulous sovereigns also stimulated increases in nominal prices. It has been alleged that the increase in population was a more important factor in raising prices than increases in the stock of specie, an argument that overlooks the distinction between the general (average)

price level and relative prices. Consequences attributed to the price revolution range from the impoverishment of the peasantry and nobility to the "rise of capitalism."

In perspective, it appears that many of the consequences attributed to the price revolution are either greatly exaggerated or wrongly attributed. Although the percentage increases in prices over the course of the century are impressive, they pale in comparison with price increases in the second half of the twentieth century when viewed on an annual basis. Severe short-term fluctuations—downward as well as upward—probably caused greater havoc than the overall long-run inflation. What is indubitable is that the price revolution, like any inflation, redistributed the income and wealth of both individuals and social groups. Those whose incomes were price-sensitive—merchants, manufacturers, landowners who farmed their own land, and peasants with secure tenures who produced for the market—benefited at the expense of wage earners and those whose income was either fixed or changed only slowly—pensioners, many rent receivers, and rack-rented peasants. Although the growth of population did not cause the (absolute) increase in prices, it probably did play a major role in the wage lag, as agriculture and industry proved incapable of absorbing the surplus labor. But the root cause of the decline in real wages was not a monetary problem; rather it was a result of the interrelations between demographic behavior and agricultural productivity.

Agricultural Technology and Productivity

The simple explanation for the cessation of European population growth in the seventeenth century is that the population had outgrown its ability to feed itself adequately. Few generalizations about European agriculture are wholly valid, however, because of regional diversity; even the "simple explanation" of the preceding sentence is subject to qualifications, for the Dutch Netherlands in particular. A few generalizations can nevertheless be advanced with only minor reservations. In the first place, for Europe as a whole and for every major geographical subdivision, agriculture was still the principal economic activity by far, occupying two-thirds or more of the active population in the Dutch Netherlands and up to 90 or 95 percent of this group in eastern and northern Europe. Second, from a human and social point of view, manual labor was by far the most important factor of production. Soil, seeds, and moisture were essential, of course; draft animals and other livestock were almost ubiquitous, if not strictly essential; and fertilizer was highly desirable. But human labor was the most essential input. Plows (in several varieties, according to the type of soil and cultivation), sickles, and flails were the principal instruments of capital equipment, and all required a large complement of manual labor to make them effective.

A final generalization is less certain and clearly subject to more regional exceptions. For Europe as a whole the average agricultural productivity in the sixteenth century was probably not higher than in the thirteenth century, and it clearly declined in the seventeenth century. The evidence of the ratios of harvest yield to seed at least suggests this. Unfortunately, we have no good evidence of productivity per unit of land or labor (except for parts of Italy, where production per unit of land may

have increased slightly, but probably at the expense of labor productivity. Yield ratios for the principal cereals were no more than 4 or 5 to 1 for Europe as a whole, ranging from 2 or 3 to 1 in parts of eastern Europe to as much as 10 or more to 1 in the most favored areas of the Netherlands and possibly elsewhere. Even these low ratios probably declined somewhat in the seventeenth century in most areas. (Comparable ratios today, using the best practices, are 40 or 50 to 1.) Livestock in general were probably no more than one-third or one-half the weight of modern animals, although they were somewhat larger in the more advanced areas. Milk productivity was comparable.

Yield/seed ratios are not infallible measures of agricultural productivity. The yield per acre of land sown might be increased by a more liberal use of seed, for example, or the productivity per unit of labor might be increased by using less labor with the same amount of seed. It seems unlikely, however, that either increased significantly, and both may have decreased slightly toward the end of the sixteenth or the first half of the seventeenth century.

Although the direct empirical evidence for a decline in the productivity of both land and labor is tenuous at best, there are good theoretical reasons for supposing that it occurred. First, instead of using less labor per bushel of seed or per acre of land, more labor was probably applied to the land because of the increase in population. Although this might have resulted in modest increases in total output, it probably meant a lower average output per man-year (i.e., in the productivity of labor). Second, there is positive evidence that more land was brought under the plow during this time, both by cultivating former wastelands (heaths and marshes, etc.) and by converting pastures to arable farmland. In the case of the wastelands, normally less fertile than those lands already under the plow, a lower average yield—that is, a decrease in the productivity of the land—would naturally be expected. In some cases, the yield on converted pastures might be higher temporarily because the animal droppings would increase the fertility of the soil. But the reduction of pastureland brought with it other, less favorable, consequences, namely, a reduction in livestock, especially cattle. There is both direct and indirect evidence of a decline in meat consumption in the sixteenth century, with adverse consequences for nutrition and the health of the population. Moreover, the decline in livestock implies a decline in the amount of manure available for fertilizer for an already-overcropped land. It was a seemingly vicious downward spiral. To appreciate the full dimensions of the problem, however, it is necessary to consider the several regional variations, not merely for themselves but for their implications for the future.

In the northern and western periphery of Europe—including Finland, most of Sweden except the extreme southern tip (Scania), Norway, Scotland, Wales, Cornwall, and much of Ireland—subsistence agriculture predominated. The lands were thinly populated, especially in the northernmost parts, which had huge tracts of virgin forests. Primitive slash-and-burn techniques were still applied, although in the more settled regions a slightly less wasteful method, the infield—outfield system, was practiced. Stock raising of a primitive sort was important, especially in the mountainous areas. The principal field crops were rye, barley, and oats (wheat did not thrive in the cold, damp climates with short summers); flax and hemp were grown for their fibers, to be made into rough homespun clothing. Because of the relative abundance of land,

manures were fluid, with most land being held in the name of clans of tribal chiefs or lords. The social organization was hierarchical, but without bondage or ties of servility.

In Europe east of the Elbe and north of the Danube (including European Russia), by contrast, personal bondage or serfdom was the characteristic feature of social relationships at the beginning of the period and increased more or less continuously during it as powerful lords steadily encroached on the lands and freedoms of the few remaining independent peasants by both legal and illegal means. This was the region of *Gutsherrschaft*, the system of direct exploitation of large estates for the benefit of the territorial lords. The peasants' status, already parlous in the fifteenth century, was steadily reduced in Russia and parts of Poland to one not very different from slavery. They were obliged to give as many as five or six days a week to the lord's service and in some instances were bought and sold separately from the lands they tilled. Agricultural technology was relatively primitive, employing either the two- or three-field system. The ratio of harvest yield to seed was low even by contemporary standards, averaging no more than 3 to 1. In the lands adjacent to the Baltic Sea, or on the navigable rivers leading to it, production for export to the markets of western Europe was a potent stimulus for specialization in grain (mainly rye) and other marketable crops; elsewhere (i.e., in most of eastern Europe) production was directed primarily at local self-sufficiency.

The Mediterranean area, in spite of a relatively uniform climate and similarities of soil types, was so diverse it defies generalization. In Italy alone land tenures ranged from the small progressive farms of peasant proprietors and independent tenant farmers in Piedmont and the extreme north to the large estates cultivated by poverty-stricken sharecroppers and hired laborers in Sicily and the south. In between were a great variety of tenures, with *mezzadria* (sharecropping) being prominent. Italy likewise had the most diversified agriculture of Europe. Cereals, although important, were relatively less so than elsewhere. Rice, which yielded more than conventional cereals, grew in the lower Po Valley and along the Adriatic coast. Grapes and olives, grown throughout the Mediterranean basin, were especially important in Italy, which also grew fruits (including citrus fruits in the south), vegetables, forage crops, and industrial crops such as dye-plants needed in the textile industry. In spite of its diversification, however, Italian agricultural output failed to keep pace with the population growth; overcropping and overgrazing took their toll, with deforestation and soil erosion among the consequences.

Spain presented almost as much variety as Italy, with fertile coastal regions in the east and the south, mountain ranges in the north and elsewhere, and the most characteristic feature of Spanish geography, the high plateau or *meseta*, spreading over the central part of the Iberian Peninsula. Spanish agriculture received a rich inheritance from its Muslim predecessors. The Arab and Moorish peoples who had inhabited Valencia and Andalusia before the Christian reconquest were excellent horticulturists and brought the art of irrigation to a high level. Unfortunately, the Spanish monarchs, fired by religious fanaticism, squandered this inheritance. In the same year that they conquered the kingdom of Granada and Columbus discovered America, they decreed the expulsion of all Jews (who were also skilled agriculturists as well as artisans) from the realm. With the fall of Granada many Moorish subjects

also left, even before they were given the choice of conversion or flight ten years later. Those who converted, called Moriscos, remained the backbone and sinews of the agricultural economy in southern Spain for another century, before they too were expelled in 1609. The Christians who replaced them were unable to maintain the intricate irrigation systems and other features of the highly productive Moorish agricultural system. In part this failure involved a lack of incentives as well as a dearth of knowledge and ability. Throughout Spain in the sixteenth century the land was gathered into huge estates owned by the aristocracy and the church, the largest landholder of all. But these were absentee landlords who, by means of stewards or other intermediaries, let the land in small parcels and on short leases to sharecroppers or tenants who lacked both the capital and the incentive to maintain the Moorish system. Many peasants fell into debt peonage, a status not far from serfdom. Moreover, with the rise of prices resulting from the inflow of American gold and silver, much land in both the fertile valleys and the arid *meseta* was diverted to cereal growing. Even so, grain production did not suffice to feed the population, and Spain depended increasingly on imports of wheat and other grains.

Another major impediment to Spanish agriculture was the rivalry between peasants and sheepowners. Spanish merino wool was in great demand in the Low Countries and other centers of the textile industry. The sheepmen followed the practice of transhumance, that is, the movement of flocks between mountainous summer pastures and lowland winter pastures (Fig. 5-4). Transhumance was not peculiar to Spain. It was practiced in every part of Europe that had mountainous areas unsuited for arable culture, from southern Italy to Norway; it is still used today by the farmers of Switzerland. But the Spanish system was unusual both for the length of its sheepwalks and for its organization. Sheepwalks, protected by royal legislation, covered the whole length of Spain from the Cantabrian Mountains in the north to the valleys of Andalusia and Extremadura in the south. The sheepmasters, organized into a guild or trade association called the *Mesta*, constituted a powerful lobby at court. Transhumant sheep were easily taxed at strategic toll stations, and the wool was valuable, brought in cash revenues (unlike many peasant crops), and was also easily taxed at export. The monarchs, always greedy for tax revenues, in return for increased taxes granted the *Mesta* special privileges, such as unlimited grazing on common lands, which were detrimental to agriculture. The privileges of the *Mesta*, together with other unwise governmental policies, such as the attempt to set maximum prices for wheat during the great inflation known as the price revolution, did nothing to encourage better technical practices in a land tenure system that already discouraged them. The productivity of Spanish agriculture was probably the lowest of western Europe. In the seventeenth century, with population declining, many farms were abandoned altogether. Elsewhere in western Europe (i.e., France north of the Massif Central, Germany west of the Elbe, Denmark and Scania, and most of England) the system of open fields, an inheritance from the manorial system of the Middle Ages, prevailed. Exceptions must be made for hilly and mountainous areas (e.g., for much of Switzerland) and for large areas of western France in which small enclosed fields (*bocage*) were intermixed with open fields. A special exception must also be made for parts of the Low Countries, which will be described in greater detail. The German term *Grundherrschaft* is sometimes used to describe the system

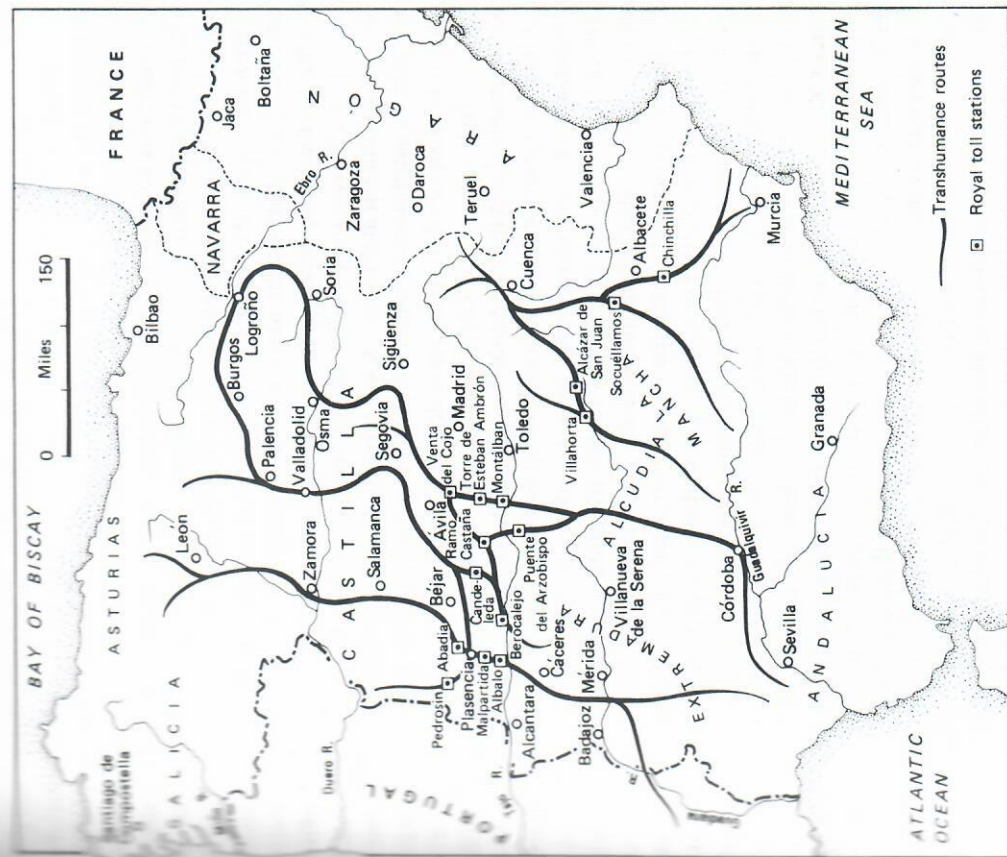


FIGURE 5-4. Transhumance routes in Spain.

of land tenure during this time. Territorial lords had been transformed into mere landlords; they collected rents in money or in kind, but labor services, already on the wane in the late Middle Ages, were extinguished, although the lords retained special rights and privileges in some areas. Transferability of land ownership became more common, and small peasant proprietors as well as independent tenant farmers increased. It has been estimated that about two-thirds of English peasants had secure tenures—freeholds, copyholds, or life leases. Although some consolidation of properties by large landowners occurred—about 10 percent of the land of England was enclosed in the sixteenth century, mainly for sheep pastures—on balance the peasants gained.

Smallholdings and independent tenant farmers were most numerous in the vicinity of cities, where their produce was vital to the supply of the urban population.

Elsewhere there were two principal types of tenure, with many variations and gradations. Long-term leases were common in England (with some customary leaseholds even being heritable), parts of Germany, and northern France. Peasants paid fixed rents either in kind or, more often, in cash; furnished their own livestock, equipment, and seeds; and acted as independent decision-makers, except when constrained by communal custom and decision-making in areas of open-field agriculture with many strips. The other main type of tenure was sharecropping, called *metayage* in France, where it was especially common south of the Loire River. In that system the landlord furnished all or part of the stock and equipment, shared the risks and decision making (or made the decisions himself), and took a portion of the crop, normally half. (He might also undertake to market the peasant's portion, a situation that lent itself to exploitation and abuse.) A variation of the latter system called *fermage* was practiced in north-central France and some other parts of Europe. (In fact, the modern English word for farming is derived from *fermage*.) In this system, a substantial *fermier* (farmer) would lease an entire estate, or even several estates, for a fixed cash rental and then sublet the land in smaller parcels to peasants on short-term leases or as sharecroppers. The landlords thus lost all functional connections with this system, becoming more *rentiers* (rent receivers). In the hands of capable *fermiers* this system could produce excellent results in terms of improved techniques and output, but it was also susceptible to rack-renting and exploitation of the peasants.

The most progressive agricultural area in Europe was the Low Countries, especially the northern Netherlands, with its core being the province of Holland. At the end of the fifteenth century Dutch and Flemish agriculture was already more productive than the average European agriculture, thanks to the opportunity of supplying neighboring cities and workers in the cloth industry. Because of its method of settlement in the Middle Ages the Dutch rural population also possessed greater freedom than that of formerly manorialized regions. In the course of the sixteenth and seventeenth centuries Dutch agriculture underwent a striking transformation that merits its description as the first "modern" agricultural economy. The modernization of agriculture was intimately associated with the equally striking rise of Dutch commercial superiority; without one, the other could not have occurred. The key to the success of the transformation of Dutch agriculture was specialization, a specialization that initially was made possible by the buoyant demand of the prosperous and rapidly growing Dutch cities but in time enabled Dutch cheeses, for example, to be sold in the markets of Spain and Italy. Instead of trying to produce as much as possible of the goods (nonagricultural as well as agricultural) necessary for their own consumption, as most peasants elsewhere in Europe did, Dutch farmers tried to produce as much as possible for the market, also buying through the market many consumption goods as well as capital and intermediate goods. In some instances farmers marketed their entire output of wheat, purchasing cheaper rye for their own consumption. For the most part, however, Dutch farmers specialized in relatively high-value products, livestock and dairy produce in particular. Raising livestock required growth (or purchase) of large quantities of fodder crops (hay, clover, pulses, turnips, etc.). Specialization in livestock also meant larger quantities of manure for fertilizer; the intensive nature of Dutch agriculture required even more fertilizer, however. So great was the demand for fertilizer that some entrepreneurs found it profitable to

specialize in collecting urban night soil and pigeon dung, which they sold by the canal boat-load or cartload—an activity that incidentally kept Dutch cities cleaner and more sanitary than other European cities.

Dutch farmers did not specialize exclusively in dairying and livestock. Horticulture occupied many of them, especially in the immediate vicinity of cities. Some grew barley and hops for the brewing industry, others industrial crops such as flax, hemp, woad, madder, and pastel. Even flowers became subject to specialized commercial exploitation: Dutch bulbs were so highly regarded that speculation in them produced a "tulip mania" in 1637. Nor did Dutch farmers give up cereal cultivation entirely; the urban patriciate was willing to pay a relatively high price for wheat bread. Nevertheless, thanks to the efficiency of Dutch shipping and the aggressiveness of Dutch merchants, the lower classes (including many specialized farmers) were able to purchase the lesser grains, mainly rye, more cheaply from the Baltic. In the mid-seventeenth century a large proportion, possibly one-fourth or even more, of Dutch cereal consumption was supplied by imports.

The profitability of Dutch agriculture is attested by the population's continuing and continuous efforts to create new land by reclaiming it from the sea, both by draining lakes and marshes and by planing peat bogs after the peat had been removed for fuel. This activity had begun in the Middle Ages, but it increased substantially in the sixteenth and seventeenth centuries and was especially intensive in periods of rising prices for farm products. Nor were only farmers involved. Diking and draining required large capital expenditures; urban merchants and other investors formed companies to reclaim land that they then sold or rented to active farmers.

A puzzling question arises. Why were Dutch agricultural techniques not more widely diffused in the sixteenth and seventeenth centuries? Some diffusion did occur. The turnip was introduced into England as early as 1565, as were some fodder crops such as clover; the reclamation of the fenlands of eastern England, begun in the seventeenth century, owed much to the Dutch example, Dutch engineers and technology, and even Dutch capital. Some diffusion also occurred in northern France, adjacent to the southern Netherlands. In more general terms, however, at this time in Europe the productivity of nonagricultural occupations was not sufficiently high, and the development of markets not sufficiently extensive, to justify the specialization and intensity of labor and capital that characterized Dutch agriculture.

Industrial Technology and Productivity

In industry as in agriculture, no sharp break occurred between the Middle Ages and the early modern period. Unlike agriculture, however, innovation took place more or less continuously, although at a very slow pace. But a problem arises here: How do we measure innovation and its effects? One obvious way is simply to count the number of inventions or innovations that occurred in each period. This is not very satisfactory, however, not only because different innovations have very different effects, but also because of the difficulty of definition. Most of the innovations in the sixteenth and seventeenth centuries (indeed, in any period of history) involved relatively minor improvements to already-established techniques. For this reason they

in productivity. In 1589 a parson of the Church of England, William Lee, invented a simple machine, the stocking frame for hosiery and other knitwear. Whereas a skilled hand-knitter could achieve a rate of 100 stitches per minute, the stocking frame could average 1,000 stitches per minute and was subsequently improved to achieve even-faster rates. Unfortunately, however, few other innovations of the period have left such detailed information.

There is another problem. Even when we have clearly defined and described an innovation and can measure its productivity, at least approximately, how do we assess its total economic impact? The greatest invention of the fifteenth century indeed, one of the greatest inventions of all time—the movable-type printing press—increased productivity in the book trade enormously, yet its immediate economic impact in terms of value of output or number employed was minuscule. Are we then fore to say that its economic significance was negligible? Other innovations of the period, in navigational instruments, firearms and artillery, and clock- and watch-making, were of minor direct economic significance yet of enormous importance in political and cultural terms—and thus, indirectly, economically as well. The introduction of artillery, for example, required the rebuilding of every city's defensive structure.

The market orientation of the European economy, greater in industry than in agriculture, encouraged entrepreneurs who could reduce production costs and respond quickly to changes in consumer demand. But there were formidable obstacles to innovation as well. One of the most ubiquitous was the opposition of both authorities who feared unemployment as a result of labor-saving innovations and monopolistic guilds and companies who feared competition. In 1551 the English Parliament passed a law forbidding manufacture of the gig-mill, a device used in the cloth-finishing trade; in this case the market prevailed over the law, as new gig-mills continued to be built. Lee was refused a patent for his stocking frame, and the first ones that he attempted to introduce in Nottinghamshire were destroyed by mobs of hand-knitters. Lee himself took refuge in France and established a factory there with the patronage of Henry IV; the factory failed after the death of his benefactor, but the stocking frame continued to spread—in 1651, in fact, the framework-knitters of Nottingham applied to Cromwell for a guild charter to exclude unwanted competition. The swivel-loom, a Dutch invention for weaving a dozen or more ribbons simultaneously, was prohibited in England in 1638, but it spread anyway, especially in Manchester and its vicinity, where its use created a large number of skilled operatives in advance of the great innovations that revolutionized the cotton industry.

None of the innovations mentioned here involved the use of mechanical power. The deficiencies of power sources and of building materials (mainly wood and stone) were natural obstacles to greater industrial productivity. The sketchbooks of Leonardo da Vinci are concrete evidence of numerous potential innovations that could not be made at the time because of inadequate materials and sources of power. Da Vinci was a genius, of course, but there were undoubtedly many other less gifted persons who were frustrated in their attempts to increase the efficiency of human labor by faulty materials and insufficient power. Wind- and watermills had, it is true, already reached a high level of sophistication, as indicated in a previous chapter, but they

obvious limitations. In the seventeenth century, however, water-powered mills for spinning silk (which may have had medieval origins) proliferated in the Po Valley of northern Italy, and by the end of the century had spread to the Rhone valley in France. The large size and complexity of these mills' machinery required them to be installed in factory-type buildings, making them some of the most important precursors of the modern industrial system.

Not all innovations involved mechanical contrivances. The typical products of the woolen industry in the late Middle Ages were heavy, coarse cloths. In the late fifteenth century Flemish clothmakers introduced a lighter, cheaper fabric called "new draperies" (in French, *nouvelle draperie*). Although slow to catch the public eye at first, their lower prices made them highly competitive in international markets, especially those of southern Europe. After the repression of the revolt in the Spanish Netherlands, and the consequent flight of many Flemish artisans, industries producing the new draperies sprang up in many lands, notably in England, where as early as 1571 there were as many as 4,000 Flemish refugees in the city of Norwich alone—most of them weavers. For similar reasons the manufacture of cotton cloth, already produced in Italy in the Middle Ages using raw material from the eastern Mediterranean, gradually spread to Switzerland, southern Germany, and Flanders in the sixteenth century. By about 1620 it had reached Lancashire, England.

The textile trades remained, collectively, the largest industrial employer in Europe, closely followed by the building trades. This is understandable when one remembers that in a poor, near-subsistence economy such as pre-industrial Europe, the basic necessities are food, shelter, and clothing. The cloth industry continued to be widely dispersed, with much production carried on within and for the household and for local markets, but some regions also specialized in production for export. The once great Italian industries suffered from the competition of new and more vigorous rivals and gradually fell behind, losing their markets for woolen goods to Dutch, English, and French producers and sharing the market for fine and fancy silks with the French. The Spanish woolen industry expanded briskly in the first half of the sixteenth century but, hampered by excessive taxation and government interference, stagnated and declined thereafter. For the first two-thirds of the century the largest cloth industries, for both woolens and linens, existed in the southern Low Countries, in the provinces of Flanders and Brabant in particular. The Dutch revolt and the brutal repression of the remaining Spanish Netherlands severely damaged both industries, although they recovered somewhat in the seventeenth century because of their privileged position as principal suppliers to the Spanish Empire.

The organization of the textile industries in the sixteenth and seventeenth centuries did not change appreciably from that of the later Middle Ages. The characteristic entrepreneur was the merchant-manufacturer who purchased the raw materials; put them out to spinners, weavers, and other artisans working in their homes; and marketed the final product. Guild organizations, whether of artisans or merchants, apparently did not affect the industry appreciably, at least in England. There the guilds gradually withered away as the woolen industry, in particular, moved to rural areas. In France the royal rulers fostered the guilds as a source of revenue. Whether this adversely affected the fortunes of the industry is a subject that merits further study. In any event, the English industry expanded prodigiously. In the Middle Ages raw

wool had been England's principal export. In the sixteenth century exports of unfinished cloth predominated. By 1600 woolen and worsted cloth accounted for two thirds of the value of all English exports. Moreover, whereas at the beginning of the seventeenth century about three-fourths of English cloth exports were undyed and undressed, by the end of the century virtually all cloth was exported in a finished condition. Well before the rise of modern industry England had already become the largest exporter in Europe's largest industry.

Although the construction industry in general experienced no significant technical changes apart from stylistic changes in monumental architecture, one specialized sector of the industry in one country did undergo a profound transformation, namely shipbuilding in the Dutch Netherlands. Thanks to the rapid expansion of Dutch commerce, the Dutch merchant fleet experienced a tenfold increase in numbers and an even larger increase in tonnage between the beginning of the sixteenth century and the middle of the seventeenth. At that time it was the largest fleet by far in Europe, three times larger than the English merchant fleet, which was a distant second, and probably larger than all other fleets combined. Considering the relatively short life of wooden sailing ships, this translated into a large demand on the shipbuilding industry, a demand to which Dutch shipbuilders responded by rationalizing their shipyards and introducing elementary mass production techniques. They used mechanical saws and hoists actuated by windmills, and kept stores of interchangeable parts. Because of their efficiency, they supplied not only their own country's fleet but those of their rivals as well. Since the Netherlands possessed few forests, virtually all of the timber for the shipyards had to be imported, principally from the Baltic area. At the same time, the large demand for sailcloth and cordage stimulated prosperous subsidiary industries in Holland itself.

There were few radical innovations in ship design from the late fifteenth to the nineteenth century, but many small improvements. The size of ships in the Atlantic trades increased from 200 to 600 tons in the course of the sixteenth century. Some warships even reached the unprecedented size of 1,500 tons, but the most significant innovation—by the Dutch, of course—was the *fluyt* ship, or flyboat, as the English called it, a specialized commercial carrier introduced at the end of the sixteenth century (Fig. 5-5). The equivalent in some respects of the tanker of our times, it was specially designed for bulky, low-value cargoes such as grain and timber and operated with smaller crews than conventional ships required.

The metallurgical industries, although of relatively minor significance in terms of employment and output, acquired major strategic significance during this period because of the growing importance of firearms and artillery in warfare. In 1450 light firearms played a negligible role in military operations, and awkward artillery pieces were confined to siege warfare. By 1600 arquebuses and muskets were the standard weapons of infantry, and large-bore cannons were essential to naval warfare. The metallurgical industries were important also as harbingers of the new age of industrialism, with the iron industry being the most important.

In the Middle Ages wrought iron was obtained from a variety of types of "blooms," in which iron ore was heated with charcoal until it became a pasty mass or "bloom," which was then alternately hammered and heated until its impurities were driven out. The process was slow, costly in fuel and ore, and produced its output in



FIGURE 5-5. The Dutch *fluyt* ship. This relatively large, ungainly ship was highly successful as a cargo carrier, replacing the older dual-purpose carrack. Its contemporary, the galleon, replaced the carrack as a warship and dual-purpose vessel. (From Netherlands Historical Maritime Museum, Amsterdam. Reprinted with permission.)

small batches. In the fourteenth and fifteenth centuries the height of the furnaces increased progressively and a blast of air provided by water-powered bellows increased the temperature of the charge—thus evolved the high, or blast, furnace. By the beginning of the sixteenth century the blast furnace was being continuously charged at the top with charcoal, ore, and a flux to remove impurities, while from the bottom molten iron was periodically tapped to be cast directly into useful implements (pots, brackets, etc.) or into "pigs" (bars) for further refining. (Cast, or pig, iron contains a high carbon content—3 percent or more—which makes it very hard but brittle; the pigs, like the blooms, were alternately heated and hammered to remove the carbon, producing wrought iron.) The new method, although indirect, was nevertheless both faster and cheaper, as it made better use of fuel and ore and could use lower-grade ores. It also required larger amounts of capital, although by far the greater part was tied up in inventories of charcoal and ore rather than in fixed capital as such.

As the blast furnace evolved a number of innovations occurred in ancillary operations. Water-powered bellows, tilt hammers, and stamping mills (for crushing ore) had all been introduced by the middle of the fifteenth century. Later in that century

and early in the next wire-drawing machines and rolling and slitting mills were invented. At the beginning of the sixteenth century the area around Liege and Namur (Wallonia) in the southeastern Low Countries, already an important metallurgical center in the Middle Ages, was the most advanced iron-producing region in Europe and the site of many innovations. Other principal centers were located in Germany, northern Italy, and northern Spain. Total European output was approximately 60,000 tons a year, of which various regions of Germany may have accounted for half. In the next hundred years the blast furnace and its attendant activities spread throughout Europe wherever iron ore, wood for fuel, and water power existed in sufficient quantities and adequate proximity. England was especially precocious. In 1625 its hundred-odd furnaces were producing upwards of 25,000 tons a year. The iron industry was a voracious consumer of fuel, however, and in the seventeenth century the high price of charcoal braked its expansion in the established areas of Swiss and Austrian Alps, in eastern Europe, and especially in Sweden.

Sweden, favored with high-grade iron ore and abundant timber and water power, had a modest iron industry even in the Middle Ages. At the beginning of the sixteenth century exports amounted to about 1,000 tons a year. In the seventeenth century Walloon and Dutch entrepreneurs introduced more advanced techniques, and output expanded enormously: exports rose from about 6,000 tons in 1620 to more than 30,000 tons at the end of the century, by which time Sweden's iron industry was probably the largest in Europe.

In other metallurgical industries progress was less remarkable, primarily involving an increase in output using conventional techniques and the application of those techniques to new sources of supply. Silver mining in central Europe, well established in the Middle Ages, experienced a boom in the early sixteenth century as a result of the discovery of the mercury amalgamation process for concentrating silver ores, but when that process was transferred (by German mining experts) to the silver mines in the Spanish colonies of Mexico and Peru in the 1560s, the resulting increase in the supply of silver so depressed prices that many European mines were forced to shut down.

Europe was not naturally rich in the precious metals, but the more utilitarian metal ores were relatively abundant. Copper, lead, and zinc were found in many parts of Europe and had been mined since prehistoric times. Tin was more localized, virtually confined to Cornwall, but it too had been an item of commerce long before the Roman conquest of Britain. In the sixteenth and seventeenth centuries, under the pressure of increasing demand, improved mining techniques involving deeper shafts, better ventilation, and pumping machinery were developed. German, especially Saxon, miners were the principal innovators, and they carried their skills abroad, to England and Hungary as well as to the New World. In the 1560s the English government granted monopolies in the brass and copper industries to companies that brought in German engineers. Sweden was almost as rich in copper as in iron and in the seventeenth century, with Dutch capital and technical assistance, was Europe's largest supplier in international markets.

Timber was in great demand for construction, shipbuilding, metallurgy, and, most important, domestic heating. The shortage of timber throughout the more

developed areas of Europe was primarily responsible for the integration of Norway and Sweden into the western European economy, both directly and indirectly (i.e., through the demand for metals). The timber shortage was so severe that it involved not only the Baltic area but, in the seventeenth and eighteenth centuries, North America as well. It also led to the search for substitute materials and fuels: brick and stone for building, peat and coal for fuel. Iron and other metals were also substituted for wood, but the increase in demand for them merely intensified the timber shortage. England was among the countries most affected. Certain forests were reserved for the royal navy, but of even greater importance was the growing demand for fuel. Coal had been mined in Germany and the Low Countries as well as England during the Middle Ages. In spite of its noxious characteristics and frequent laws prohibiting its use, "seacoale" from the banks of the Tyne estuary had become a common household fuel in sixteenth-century London. Gradually it penetrated high-level consumption industries such as glass, brick, and tile production; copper smelting; malting and brewing; and various chemical industries. Attempts were made in the seventeenth century to substitute it for charcoal in the iron-smelting process, but various impurities (principally sulfur) in raw coal imparted undesirable characteristics to the iron. Even so, other industries' demand for coal increased steadily. The output of the English industry grew from about 200,000 tons annually in the mid-sixteenth century to 3 million tons at the end of the seventeenth. As the industry grew, coal from outcroppings along riverbanks no longer sufficed to satisfy the demand. Mines had to be sunk; Saxon miners, long experienced in the arts of boring, pumping, and mine ventilation, were brought to England to spread their knowledge.

Overseas discoveries, by providing new raw materials, directly stimulated new industries; sugar refining and tobacco processing were the most important, but other manufactures ranging from porcelain (in imitation of Chinese ware) to snuff boxes developed to satisfy newly created tastes. Sugarcane also provided the raw material for rum distilleries, and in the seventeenth century the affluent Dutch invented gin, originally intended for medicinal purposes. In addition to such wholly new industries a number of older industries in which production had been highly localized spread to various parts of Europe. In the Middle Ages Italy had been the principal, if not the only, producer of such luxury goods as fancy glassware, high-grade paper, optical instruments, and clocks. The growth of similar industries in other countries, whose products were frequently of lesser quality but cost less, accounts in part for the relative decline of Italy. The invention of the printing press greatly increased the demand for paper. Before the end of the fifteenth century more than 200 printing presses had been established and had produced approximately 35,000 separate editions, or about 15 million books. The numbers grew exponentially thereafter: in the latter half of the seventeenth century the catalogs of the Frankfurt book fair, the largest in Europe, listed as many as 40,000 current titles. The Low Countries, especially Antwerp and Amsterdam, were the most active centers of the industry, but France, Italy, the German Rhineland, and England did not lag far behind.

In spite of this picture of varied, vigorous, and sophisticated industries, one should bear in mind the still-very imperfect degree of specialization in the European economy and its extreme dependence on low-productivity agriculture. Many industrial workers, especially in the textile industries, engaged part-time in

agriculture, and most agricultural workers also had secondary occupations as woodworkers, leather workers, and the like.

Trade and Trade Routes

Of all sectors of the European economy, commerce was undoubtedly the most dynamic between the fifteenth and the eighteenth centuries. Older textbooks described the sixteenth century as an era of "commercial revolution." As we have seen, there are earlier candidates for that title, but there is no doubt that a substantial increase occurred in the volume of long-distance or international trade during the century. Exactly how much is impossible to state, but the increase in trade probably exceeded by several times the increase in population. Extra-European trade contributed to that increase and also stimulated some increase within Europe, but, as was previously noted, trade with Asia and America was but a small fraction of the total. Commerce would certainly have increased even with no overseas discoveries.

It should be remembered that by far the greatest part of commercial exchange both by volume and by value, was local. Towns and cities received the bulk of their food supplies from their immediate hinterlands and in exchange supplied them with manufactured goods and services. This commercial activity was mainly small scale and varied little either over time or from place to place. More interesting, and more significant for the history of economic development, were the changes that occurred in distant trade.

The principal trade routes and the commodities involved in them, as they existed in the fifteenth century, were sketched in Chapters 3 and 4. The most important changes that occurred over the next 200 years, in addition to the opening of the overseas routes, were the shift in the center of gravity of European commerce from the Mediterranean to the northern seas, a slight but perceptible change in the character of the commodities involved in distant trade, and changes in the forms of commercial organization.

The Portuguese invasion of the Indian Ocean was a rude shock to the Venetians and, to a lesser extent, other Italian cities. It is not true, as used to be thought, that the Mediterranean spice trade through Egypt and Arabia ceased abruptly, but the competition of Portuguese spices did greatly reduce its profitability. In 1521, in an attempt to regain their monopoly, the Venetians offered to purchase the entire Portuguese import of spices but were refused. Gradually the initiative in commercial affairs shifted to northern Europe. The Venetians' famed Flanders fleet made its last voyage in 1532, and in the latter part of the century Venetian ambassadors complained of competition from cheaper French and English woolsens in the markets of the Near East, which the Italians had regarded as their exclusive domain. The benefits of the Portuguese success did not accrue exclusively to the Portuguese, however. The first cargo of Portuguese spices appeared on the Antwerp market in 1501, carried from Lisbon not by Portuguese but by Dutch or Flemish merchants. The Spanish and Portuguese, concentrating on the exploitation of their overseas empires, left the business of distributing their imports in Europe, and also of providing most of the exports to their colonies, to other Europeans. Of these the Netherlands, mainly

Dutch and the Flemish, were most aggressive. "The prodigious increase of the Netherlands" (in the words of an envious Englishman) began modestly enough in the sixteenth century as Dutch fishing fleets in the North Sea began to undercut Hanseatic dominance of the herring trade. (It used to be thought that the herring shoals "migrated" from the Baltic to the North Sea, but more likely the decline of the shoals, in this as in other trades, occurred because the Dutch were simply more efficient.) The dried and salted fish were first distributed around the shores of the North Sea and up the German rivers; later, in the sixteenth century, distribution was extended to southern Europe and even to the Baltic. Meanwhile the Dutch developed other trades. From Portugal and the Bay of Biscay, they procured salt for the fish and the distribution in northern Europe, occasionally picking up cargoes of wine as well. The mainstay of Dutch commerce was the Baltic trade, which consisted mainly of grain and timber, but also of naval stores, flax, and hemp. Of the 40,000 ships recorded in the Danish Sound Toll registers as entering or leaving the Baltic between 1607 and 1660, almost 60 percent were Dutch, and the remainder English, Scottish, German, and Scandinavian. Virtually all of the trade between northern Europe and France, Portugal, Spain, and the Mediterranean, and much of the trade between England and the Continent, was in the hands of the Dutch.

The Dutch were equally aggressive in overseas trade. Their war for independence interrupted their trade with Spain, but they continued to trade with the Portuguese Empire through Lisbon. Portugal fell to the crown of Spain in 1580, however, and in 1592 the Spanish authorities closed the port of Lisbon to Dutch shipping. Heavily dependent on maritime commerce, the Dutch immediately began building ships capable of the months-long voyage around Africa to the Indian Ocean. In less than ten years more than fifty ships had made the round trip between the Netherlands and the Indies. So successful were these early voyages that, in 1602, the Dutch government combined all the private trading companies of the individual parts of the Netherlands into the Dutch East India Company, which legally monopolized trade between the Indies and the Netherlands.

The Dutch were not the only nation to take advantage of Portugal's weakness. English interlopers had made a voyage to the Indies as early as 1591, and in 1600 the English East India Company was organized with a monopoly similar to that of the Dutch company. Although the two companies were rivals to some extent, they both regarded the Portuguese as the greater enemy. The Dutch concentrated their attention on the fabulous Spice Islands of Indonesia and by the middle of the seventeenth century had established their mastery of both the islands and the spice trade more effectively than the Portuguese had ever done. They also took control of the ports of Ceylon. The English, after unsuccessful attempts to obtain a foothold in Indonesia, established fortified trading posts on the mainland of India, which eventually became the "brightest jewel in the British crown." Portugal retained its possessions of Goa, Diu, and Macao, as well as a few ports on the African coasts, but ceased to be a major commercial or naval power in the eastern seas.

The other sea powers also took advantage of Portuguese weakness and Spanish rigidity to invade and create markets in the Western Hemisphere. Early French and English attempts to find a direct route to the East had been disappointing, but in the second half of the sixteenth century new efforts were made to discover a northeast or

northwest passage to Asia. The ill-fated voyage in 1553 of Hugh Willoughby and Richard Chancellor through Arctic waters into the White Sea failed to find a northeast passage, but it did establish trade relations with the growing Russian Empire and, through it, with the Middle East. At about the same time French, English, and Dutch privateers began carrying on a clandestine trade with Brazil and the Spanish colonies in the New World or, as the occasion presented, raiding Spanish ships and colonial ports. Three brief attempts by the English to found colonies in North America during the reign of Elizabeth I ended in failure, but in the first half of the seventeenth century successful colonies were established in Virginia (1607), New England (1620), and Maryland (1632), as well as on islands seized from the Spanish in the West Indies. In time all of these became important markets for English industries as well as sources of supply for raw materials and consumer goods. In 1608 the French established a permanent settlement at Quebec and claimed the entire Great Lakes area as New France, but the colony did not prosper. In 1660, when the English-speaking colonists in the New World numbered almost 100,000, all Canada contained only 2,500 French colonists, fewer than the number of Frenchmen in the small number of French sugar islands in the West Indies.

In 1624 the Dutch attempted to conquer the Portuguese colonies in Brazil, but after two decades of intermittent strife they were ultimately driven out by the Portuguese colonists themselves, with little help from the mother country. The Dutch retained only Surinam and a few islands in the Caribbean. In the same year the Dutch began their Brazilian conquest, another group of Dutch colonists founded the city of New Amsterdam on the southern tip of Manhattan Island. They laid claim to the entire Hudson Valley and surrounding area, founded Fort Orange (Albany), and gave out land under the patroon system of ownership to such families as the Rensselaers and Roosevelts.

Seaborne commerce was by far the most important part of European international trade, but inland trade, especially river traffic, was not negligible. Local commerce relied on inland trade extensively, and most commodities even in international trade began their voyages to market by traveling overland by cart or on pack animal and downriver by barge. Copper from Hungary, for example, reached the market of Antwerp (later Amsterdam) by land carriage to the Polish rivers and thence by barge to Danzig, where it was transhipped through the Baltic and North seas. Silver from central Europe and the Tyrol followed similar routes, whether going to the Baltic, the Mediterranean, or the West. The Rhine, Main, and Neckar rivers were important arteries for the export of the metals and hardware (knives, tools, and toys) of southern Germany and the Rhineland. The French rivers were equally important.

Metals and some luxury cloths could stand the expense (and wear and tear) of long land journeys. Few other commodities could, unless they were self-propelled, as was the case with cattle. While most of Europe's arable land was increasingly devoted to field crops to feed its growing population, Denmark, Hungary, and Scotland had large open grasslands on which to pasture herds of cattle. Annual cattle drives foreshadowing those of the American West of the nineteenth century, sent the live stock to fattening pens and markets in the cities of northern Germany and the Low Countries, southern Germany and northern Italy, and England.

The character of the commodities involved in long-distance trade changed somewhat in the sixteenth and seventeenth centuries. In the early Middle Ages these commodities had been mainly luxury goods for the well-to-do. Later, with the growth of towns, more mundane articles entered the lists. By the sixteenth century a large proportion of the volume of goods moving in international trade consisted of such staples as grain, timber, fish, wine, salt, metals, textile raw materials, and cloth. At the end of the seventeenth century half of English imports, by volume, consisted of value more than half of their exports, also by volume, were coal, although cloth exports were far more valuable. The trade in bulky staples was made possible principally by the improvements in ship design and construction, which lowered costs of transport. A reduction in the risks of maritime travel, both natural and manmade, by better navigational techniques and the action of navies in putting down pirates also contributed to changes in commodities trade.

In the intercontinental trade the situation corresponded more closely to the older model, although even here shifts occurred in the seventeenth and especially the eighteenth centuries. The commerce in pepper, a luxury at the beginning of the sixteenth century, gradually took on the character of a staple trade. As the importance of the precious metals declined in the seventeenth century and other countries acquired colonies in the Western Hemisphere, sugar, tobacco, hides, and even timber became increasingly prominent among Europe's imports. Europe's exports to the colonies consisted of manufactured goods, for the most part; these were not bulky, but the remaining space available in the ships that transported them was filled partly by emigrants. The situation in the Eastern trade was quite different. From the beginning of direct European contact with the East, Europeans had difficulty in finding merchandise to exchange for the spices and other wares they desired. For this reason much of Europe's "trade" was, in effect, plunder. Where plunder was not possible or feasible, Asians accepted firearms and munitions, but mostly they demanded gold and silver, which they hoarded or converted into jewelry. On balance, Asia was a sink for European monetary metals. Not until the conquest of India by England in the eighteenth century was the balance reversed.

One very special branch of commerce dealt in human beings: the slave trade. Although the Spanish colonies were among the largest purchasers of slaves, the Spanish themselves did not engage in the trade to any great extent but granted it by contract, or *asiento*, to the traders of other nations. The trade was dominated at first by the Portuguese, and then in turn by the Dutch, the French, and the English. Usually the trade was triangular in nature. A European ship carrying firearms, knives, other metalwares, beads and similar cheap trinkets, gaily colored cloth, and sugar would sail for the West African coast, where it would exchange its cargo with local African chieftains for slaves, either war captives or the chief's own people. When the slave trader had loaded as many chained and manacled Africans as his ship would carry, he would sail for the West Indies or the mainland of North or South America. There he would exchange his human cargo for one of sugar, tobacco, or other products of the Western Hemisphere, with which he would return to Europe. Although the death rate from disease and other causes for slaves in transit was dreadfully high, the profits of the slave trade were extraordinary. European governments took no effective steps to prohibit this trade until the nineteenth century.

Commercial Organization

The organization of trade varied from country to country and according to the stage of the commerce. Intra-European trade inherited the sophisticated and complex organization developed by the Italian merchants in the later Middle Ages. In the sixteenth century colonies of Italian merchants could be found in every important commercial center: Geneva, Lyons, Barcelona, Seville, London, Bruges, and especially Antwerp, which in the first half of the sixteenth century became the greatest entrepôt. Native merchants, and those from other countries as well, learned Italian business techniques such as double-entry bookkeeping and the use of credit—so well, indeed, that by the first half of the sixteenth century the Italian could no longer assert their predominance in this sphere. The greatest business center of the sixteenth century was the Fugger family, with headquarters in Augsburg in southern Germany.

The first Fugger known to history was a weaver. Some of his descendants became putters-out (merchant-manufacturers) in the woolen industry, eventually getting into wholesale trade in silk and spices with a warehouse in Venice. By the end of the sixteenth century they were actively engaged in financing the Holy Roman emperor, as a result of which they obtained control over the output of the Tyrolean silver and copper mines and the copper mines of Hungary. Under Jacob Fugger II (1459-1525) the family firm operated branches in several German cities and in Hungary, Italy, Spain, Lisbon, London, and Antwerp (Fig. 5-6). From Lisbon and Antwerp they largely controlled the distribution of spices in central Europe, for which they changed the silver needed to purchase the spices in India. They also accepted deposits, dealt extensively in bills of exchange, and were heavily involved in financing the monarchs of Spain and Portugal, a business that eventually led to their downfall.

The Fuggers were preeminent in the sixteenth century—Jacob II was called prince among merchants—but many others, in Italy and the Low Countries, as well as in Germany, were only slightly less prominent. Even Spain had a few important merchant dynasties. The form of organization they favored was the partnership, usually formalized by written contracts specifying the rights and obligations of each partner. By means of correspondence among widely separated partners or agents they kept abreast of developments, political as well as economic, in all parts of Europe and beyond. It was said that Queen Elizabeth's government was the best informed in Europe because of her financial agent in Antwerp, the merchant Thomas Gresham. Merchant newsletters were the forerunners of the great nineteenth-century gathering agencies, or "wire services," of today.

Commercial organization in England, a peripheral country in the fifteenth century, reflected an earlier form than the more highly developed economies on the Continent, but it made rapid progress and by the late seventeenth century was one of the most advanced in Europe. In the Middle Ages the trade in raw wool, by far the most important export, was handled by the Merchants of the Staple, a regulated company that functioned something like a guild. There was no joint stock; each merchant traded for his own account (and for his partners, if any), but they had a common headquarters and warehouse (the staple) and obeyed a common set of rules. The wool trade was still important, though declining, in the sixteenth century; the



Fig. 5-6. Jacob Fugger II, "The Rich." Fugger is shown here in his office with his clerk Mathias Schwartz. The large volumes behind him are labeled with the names of cities with which he did business: Venice, Cracow, Milan, Innsbruck, Nuremberg, and Antwerp. (From Bpk, Berlin/ Braunschweigisches Landesmuseum für Geschichte und Kunst, Braunschweig.)

wool trade was still important, though declining, in the sixteenth century; the wool was taxed and sold to foreign merchants, was located in Antwerp, and was in English possession until 1558. Replacing the Staplers in importance, the Merchant Adventurers, another regulated company, handled the trade in woolen goods. These merchants were members of both companies. They established their headquarters in Antwerp, contributing more than a little to the growth of that market, and secured certain privileges in return. In 1564 the company received a royal charter granting it a legal monopoly of cloth exports to the Low Countries and thus the most important markets.

In the latter half of the sixteenth century the English set up a number of other companies with monopolistic trading charters: the Muscovy Company (1555), an outgrowth of the Wiltoughby-Chancellor expedition; the Spanish Company (1577); the Levant (Turkish) Company (1583); the first of the East India Companies (1585); the East India Company (1600); and a French company (1611). The establishment of special companies for trade with France, Spain, and the Levant, in particular, indicates one (or both) of two things: the small amount of trade between England and those countries before the existence of the companies (and possibly afterwards as well), and the extent to which such trade that did exist was in the hands of Dutch or other merchants. It is significant that the Dutch did not have the need for such monopolistic concerns, except for extra-European trade.

Some of these companies adopted the regulated form, but others became joint stock companies; that is, they pooled the capital contributions of their members and placed them under a common management. This was done in the long-distance trades, in which the risks and capital required to outfit a single voyage exceeded the amounts that one or a few individuals were willing to assume or furnish. The Muscovy and Levant companies were first formed on a joint-stock basis, but as trade relations developed and became more stable they became regulated companies. The Muscovy Company, trading through the port of Archangel, handled most of western European commerce with northern Russia until the tsar withdrew its privileges in favor of the Dutch in 1649. The East India Company also adopted the joint-stock form. At first each annual voyage was a separate venture, which might have different groups of stockholders from year to year. In time, as it became necessary to establish permanent installations in India and to provide continuous supervision of its affairs, the company adopted a permanent form of organization in which a stockholder could withdraw only by selling his shares to another investor. The Dutch East India Company adopted the permanent form as early as 1612.

The existence of a single great entrepôt in northwestern Europe—first Bruges, then Antwerp, then Amsterdam, each larger and more imposing than the former—was doubly significant. First, their mere existence, in contrast to the periodic fairs of the Middle Ages, is evidence of the growth in the size of markets and of market-oriented production. But the fact that there was only one at a time, and that as one rose another declined, indicates the limits to that development. True, there were other emporia of some significance—London, Hamburg and other Hanseatic cities, Copenhagen, Rouen, and others—but none had the full range of commercial and financial services of the one great metropolis. The reasons for this are related to the limited extent of markets and the “public good” nature of information in commercial and especially financial transactions. When the total volume of commercial or financial turnover is relatively small, it is cheaper to concentrate such activity in a single location.

The organization of the entrepôt was already highly sophisticated at the beginning of the fifteenth century in Bruges and became more so as it migrated to Antwerp and Amsterdam. The first requirement is a bourse, or marketplace (Fig. 5-7). (The modern word *bourse* and its equivalents in various languages—*bourse*, *börse*, *borsa*, *bolsa*—meaning an organized or regulated market for trade in either commodities or financial instruments, derives from the merchants’ meeting hall in Bruges, which was identifiable by a sign showing three moneybags, or purses.) As a rule the goods displayed were not actually exchanged on the spot; they were merely samples that could be inspected for quality. After orders were placed the goods would be shipped from warehouses. The use of credit was widespread, with most payments being made with financial instruments such as the bill of exchange, or by assignment to banks, instead of with hard cash. The banks were mostly private affairs, including many merchant firms such as that of the Fuggers, who carried on a banking business on the side, until the famous Amsterdamsche Wisselbank, or Bank of Amsterdam, was founded in 1609. This was a public bank in that it was founded under the auspices of the city itself. It was strictly an exchange bank, rather than a bank of issue and discount. As all wholesale trade in Amsterdam had to be done through the bank, all merchants, Dutch and foreign, had to open an account by depositing silver or gold



FIGURE 5-7 The Amsterdam Exchange. This painting by Emmanuel de Witte shows the interior court of the Amsterdam Exchange, or bourse. (From Bpk, Berlin/ By De Witte-loan: Willem van der Vorm Foundation, Museum Boymans-van Beuningen, Rotterdam/Art Resource, NY.)

coins or bullion to get credit in the bank's unit of account, *banco schelligen*. Funds were then transferred among the accounts, providing a stable, reliable means of payment that was adopted throughout Europe for transactions both within Europe and overseas.

The regimes that governed the colonial trades differed markedly from those that dominated intra-European trade. The spice trade of the Portuguese Empire was a near monopoly; the Portuguese navy doubled as a merchant fleet, and all spices brought back from the East had to be sold through the *Casa da India* (India House) in Lisbon. Portuguese seamen were allowed to bring home other commodities as personal possessions, which they could subsequently sell—a practice that led to some dangerously overloaded ships on the return voyage—but, strictly speaking, no

commerce existed between Portugal and the East except that organized and controlled by the state.

The situation was different beyond the Cape of Good Hope, however. Portuguese merchants took part in the "country trade" (between ports on the Indian Ocean, in Indonesia, and even in China and Japan) in competition with Malay, Hindu, and Chinese merchants. For a time, as a result of a ban on direct trade Japan imposed by the Chinese emperor, they had a virtual monopoly on trade between China and Japan. In the spice trade Goa was the eastern terminus as far as the western. The spices, of which pepper was quantitatively most important, were purchased in markets throughout the Indian Ocean and in the Spice Islands brought to Goa to be loaded on homebound ships under the eyes of royal officials. Since Portugal produced few goods of interest to Eastern markets, the outward goes consisted mainly of gold and silver bullion, along with some firearms and munitions. Overall, although the spice trade was lucrative for the government, it did not develop or strengthen Portugal's own economy.

The trade between Spain and its colonies was similar. Technically, trade with the colonies was a monopoly of the crown of Castile. For practical purposes the government turned it over to the *Casa de Contratación* (House of Trade), a guildlike organization in Seville that operated under the watchful eyes of government inspectors. All shipping between Spain and the colonies went out in convoys that, as even today, departed from Seville in two contingents in the spring and late summer, wintered in the colonies, and returned as one fleet the following spring. The reason for the convoy system was to protect the bullion supply from privateers in time of war, enemies, but it was also a convenient but ineffective means of attempting to prevent contraband trade. How much contraband there actually was is impossible to say, but it must have been substantial in view of the pitifully small amount of legal exports. Although there were fluctuations, the average number of ships in the convoys each year in the latter part of the sixteenth century was about eighty, a small fraction of the number engaged in the Baltic trade, for example. At that time the European population in the New World amounted to well over 100,000. Even though this population was, to a large extent, self-sufficient in food supply, it still demanded European wines and olive oil, not to mention manufactured goods such as cloth, firearms, tools, and other hardware. It has been estimated that approximately half of all official bullion imports into Seville was required to purchase return cargoes, with an additional 10 percent or so absorbed by ships and other commercial services. The crown, for its part, demanded the *quinto* (royal fifth) of all bullion imports but, with other taxes, actually claimed about 40 percent of the total. As in the case of Portugal, Spain's fabulous empire did not further the development of Spain's own economy and, as a result of short-sighted government policies, actually retarded it. We now turn to a consideration of the policies.

6

Economic Nationalism and Imperialism

Economic policies of emerging large, centrally governed states in the period of recovery from the Black Death had a dual purpose: to build up economic strength for the state and to use the power of the state to promote economic growth and enrich the nation. In the words of Sir Josiah Child, a British merchant of the late seventeenth century, "profit and power ought jointly to be sought." Above all, however, the states sought to obtain revenue to maintain and expand military forces; frequently their need for revenue led them to policies that were detrimental to truly productive activities.

At a point of their objectives policymakers had to deal with the conflicting desires of their own subjects and rival nation-states. In medieval times municipalities and local government units possessed extensive powers of economic control and regulation. They levied tolls or tariffs on goods entering and leaving their territories. Local guilds of merchants and artisans fixed wages and prices and controlled and regulated working conditions. The policies of economic nationalism represented a transfer of these functions from the local to the national level, at which the government attempted to unify the state economically as well as politically.

At the same time they were seeking to impose economic and political unity on their subjects, the rulers of Europe were aggressively competing with one another for the extent of their territory and control of overseas possessions and trade. They did so partly because their countries more nearly self-sufficient in time of war; but the very attempt to secure territory or trade at the expense of others often led to war. Thus, economic nationalism aggravated the antagonisms engendered by religious differences and dynastic rivalry among the rulers of Europe. The numerous internal and international conflicts of this period intensified the damages from recurring outbreaks of plague and other calamities. Combined with extreme weather conditions in the deepest part of the Little Ice Age, civil and foreign wars created a truly global crisis in the seventeenth century.

Mercantilism: A Misnomer

John Smith, a Scottish philosopher of the Enlightenment and the founder of the science of economics, characterized the economic policies of his day (and of

earlier centuries) under a single rubric, the *mercantile system*. In his view these policies were perverse because they interfered with the "natural liberty" of individuals and resulted in what modern economists call a misallocation of resources. Although he condemned the policies as unwise and unjust, he attempted to systematize them: hence the term *mercantile system*—partly, at least, to highlight their absurdities. Drawing chiefly on British examples, he declared that the policies were devised by merchants and foisted on rulers and statesmen who were ignorant of economic affairs. Just as merchants are enriched to the degree to which their income exceeds their expenditures, nations, they argued (in Smith's construction), would enrich themselves to the extent that they sold more to foreigners than they purchased abroad, taking the difference, or the "balance of trade," in gold and silver. Hence, they favored policies that would stimulate exports and penalize imports (both of which were favorable to their own private interests) to create a "favorable balance of trade for the nation as a whole.

For more than a century after Smith published his epochal *Inquiry into the Nature and Causes of the Wealth of Nations* in 1776, the term *mercantile system* had a pejorative connotation. In the latter part of the nineteenth century, however, a number of German historians and economists, notably Gustav von Schmoller, radically reversed that notion. For these nationalists and patriots living in the wake of the unification of Germany under Prussian hegemony, *mercantilismus* (mercantilism) was above all a policy of state-making (*Staatsbildung*) carried out by wise and benevolent rulers, of whom Frederick the Great was the principal exemplar. In Schmoller's words, mercantilism "in its innermost kernel is nothing but state-making—not state-making in a narrow sense but state-making and national-economy-making at the same time."

Subsequent scholars attempted to harmonize and rationalize these two basically divergent, even antagonistic, ideas. Thus, one can find in textbooks such definitions of mercantilism as the "theory" or "system" of economic policy characteristic of early modern Europe or, more cautiously, as a "loosely knit body of ideas and practices which prevailed in western European countries and their overseas dependencies from around 1500 to perhaps 1800."² In view of these popular misconceptions and oversimplifications, it can scarcely be overemphasized that precious little "system" underlay economic policy, other than the need for revenue by financially hard-pressed governments, or that the theoretical underpinnings of economic policy were notoriously weak if not altogether absent; certainly there was no general consensus on either theory or policy.

There were, to be sure, some common themes or elements of economic policy resulting from the similarity of needs and circumstances of the policymaking authorities, that is, the effective rulers or ruling classes. These are sketched out later. But at least as significant as such similarities were the differences occasioned by the different circumstances, and especially by the differing natures and compositions, of the ruling classes. These are briefly touched on here and elaborated more fully in the sections that follow.

Despite similarities, each nation had distinctive economic policies derived from peculiarities of local and national traditions, geographic circumstances, and, most important, the character of the state itself. Advocates of economic nationalism all claimed that their policies were designed to benefit the state. But what was the state? It varied in character from the absolute monarchies of Louis XIV and most other continental powers to the burgher republics of the Dutch, the Swiss, and the Hanseatic cities. In no case did all or even a majority of the inhabitants participate in the process of government. Since the nationalism of the early nation-states rested on a class, not a mass, basis, the key to national differences in economic policy should be sought in the differing compositions and interests of the ruling classes.

In France and other absolute monarchies the wishes of the sovereign were paramount. Although few absolute monarchs had an understanding or appreciation of economic matters, they were accustomed to having their orders obeyed. The day-to-day administration of affairs was carried out by ministers and lesser officials who were hardly more familiar with the problems of industrial technology and commercial enterprise, and who reflected the values and attitudes of their master. Elaborate regulations for the conduct of industry and trade added to the cost and frustration of doing business and encouraged evasion. On large issues absolute monarchs often sacrificed both the economic welfare of their subjects and the economic foundations of their own power through ignorance or indifference. Thus, in spite of its great empire, the government of Spain continually overspent its income, hamstringing its merchants, and steadily declined in power. Even under Louis XIV, the populous and powerful France could not easily support the continued draining of its wealth for the prosecution of Louis's territorial ambitions and the maintenance of his court. By the time he died France was hovering on the brink of national bankruptcy.

The United Netherlands, governed by and for the wealthy merchants who controlled the principal cities, followed a more informed economic policy. Living principally by trade, they could not afford the restrictive, protectionist policies of their target neighbors. They established free trade at home, welcoming to their ports and markets the merchants of all nations. On the other hand, in the Dutch Empire the monopoly of Dutch traders was absolute.

England lay somewhere near the center of the spectrum. The landed aristocracy intermarried with wealthy merchant families and mercantile-connected lawyers and officials, and great merchants had long taken a prominent part in government and politics. After the revolution of 1688–1689 these merchants' representatives in Parliament assumed the ultimate power in the state. The laws and regulations they made concerning the economy reflected a balance of interests, benefiting the landed and agricultural interests of the nation while encouraging domestic manufactures and assisting shipping and trading interests.

The Common Elements

In the Middle Ages most feudal lords, especially sovereigns, owned "war chests" that were literally that: huge armored chests in which they accumulated coins and bullion to finance both anticipated and unexpected hostilities. By the sixteenth

¹ Gustav von Schmoller, *The Mercantile System and Its Historical Significance* (New York and London, 1896), p. 69.

² Edmund Whittaker, *Schools and Streams of Economic Thought* (Chicago, 1960), p. 31.

century the methods of government finance were somewhat more sophisticated, but the preoccupation with plentiful stocks of gold and silver persisted. This gave rise to a crude form of economic policy known as "bullionism"—the attempt to accumulate as much gold and silver within a country as possible and to prohibit their export by fiat, with violators punishable by death. Spain's futile attempts to husband its New World treasure were the most conspicuous example of this policy, but most nation states had similar legislation in place.

Since few European countries had mines producing gold and silver (and those that did, mainly in central Europe, were forced to shut them down by the inundation of Spanish treasure in the mid-sixteenth century), the acquisition of colonies that possessed them was a major goal of exploration and colonization. Once again, the Spanish bonanza was the model to be emulated. The colonies of France, England, and Holland produced little gold or silver, however, so the only way for these countries to obtain supplies of the precious metals (apart from conquest and piracy, to which they also resorted) was through trade.

It was in this connection, as Adam Smith pointed out, that merchants were able to influence the councils of state, and it was they who devised the argument for a favorable balance of trade. Ideally, according to this theory, a country should only sell and should purchase nothing abroad. Practically, however, this was manifestly impossible, and the question arose: What should be exported and what imported? Because of the high incidence of poor harvests and periodic famines, governments sought plentiful domestic supplies of grain and other foodstuffs and generally prohibited their export. At the same time they encouraged manufactures not only to have something to sell abroad but also to further self-sufficiency by broadening the range of their own production.

To encourage domestic production, foreign manufactures were excluded or made subject to high protective tariffs, although the tariffs were also a source of revenue. Domestic manufactures were also encouraged by grants of monopoly and by subsidies (*bounties* in English terminology) for exports. If raw materials were not available domestically, they were sometimes imported without import taxes, in contradiction of the general policy of discouraging imports. Sumptuary laws (laws governing consumption) attempted to restrict the consumption of foreign merchandise and promote that of domestic products.

Large merchant navies were valued because they earned money from foreigners by providing them with shipping services and encouraged domestic exports by providing cheap transport—at least in theory (Fig. 6-1). Moreover, when the chief difference between a merchant ship and a warship was the number of guns it carried, a large merchant fleet could be converted to a navy in case of war. Most nations had "navigation laws" that attempted to restrict the carriage of imports and exports to native ships and in other ways promoted the merchant marine. Governments also encouraged fisheries as a means of training seamen and stimulating the shipbuilding industry, as well as making the nation more self-sufficient in terms of food supply and furnishing a commodity for export. The extensive herring fisheries of the Dutch were a prime example of this strategy. Underlying the emphasis on merchant marines was the notion that a fixed and definite volume of international trade existed. According to Jean-Baptiste Colbert, the principal minister of Louis



FIGURE 6-1. The quay at Amsterdam. In the seventeenth century the Dutch merchant fleet was the envy of Europe, and Amsterdam was its principal port. This contemporary painting by Jacob van Ruisdael shows the busy port in action. (The small ships in the foreground are lighters, which ferried merchandise to and from larger ships anchored in the outer harbor.) (From The Frick Collection, New York/Erich Lessing/Art Resource, NY.)

XIV, all the trade of Europe was carried by 20,000 ships, more than three-fourths of which belonged to the Dutch. Colbert reasoned that France could increase its share only by decreasing that of the Dutch, an objective he was prepared to make war to achieve.

Theorists of all nations stressed the importance of colonial possessions as an element of national wealth and power. Even if colonies did not have gold or silver mines, they might produce goods not available in the mother country that could be used at home or sold abroad. The spices of the Indies, the sugar and rum of Brazil and the West Indies, and the tobacco of Virginia served such purposes.

These were some of the notions concerning economic policy that were current in the sixteenth and seventeenth centuries. Usually they were not this clearly and simply spelled out, and they never commanded universal adherence, much less constituted a "theory" or "system" to guide the actions of rulers. In actual practice the legislation and other interventions of governments in the economic sphere consisted of a series of expedients, usually lacking an economic rationale and frequently producing unintended, deleterious results, as the following survey shows.

This forced the monarchs to resort to a third source of financing, borrowing from wealthy merchants, but this sacrificed long-run tax revenue for one-time gains. Borrowing was not a novelty for Spanish, or other, monarchs. Ferdinand and Isabella had borrowed to finance their successful war against Granada, for example, and according to popular legend, Isabella pawned her jewels to help finance Columbus's voyage. But under Charles and Philip deficit financing became a regular practice like an addiction to a habit-forming drug. In fact, Charles, early in his reign, had borrowed huge sums from the Fuggers and other German and Italian bankers to help the electors who named him Holy Roman Emperor. The interest on those debts, as others that he had incurred, mounted continuously. The lenders, who came to include Flemish and Spanish as well as German and Italian bankers, and even some well-to-do merchants and nobles, obtained contracts that specified particular tax revenues as portions of the next shipment of American silver as security for their loans.

By 1544, as silver imports began arriving regularly, two-thirds of the regular annual revenue was committed to paying interest and redeeming short-term debt as they fell due. In 1552, the government of Charles V suspended interest payments, setting the stage for serial defaults by his successors in 1557, 1575, 1596, 1607, 1621, 1647, 1653, and 1680. Historians have long wondered why the Spanish Habsburgs could continue to find lenders despite this record of incompetence. Economists point to the refinancing techniques employed by the Spanish monarchs and their bankers. After each default, which became models for other European governments as well, The beginning of each war was financed by short-term loans, *asientos*, which assigned specific tax revenues or expected silver shipments to the lender. The lender in turn wrote in provisions of what would happen if the tax revenues or silver shipments failed to appear. Typically, the lender would cease making further payments on the loan and then negotiate to replace the collateral and the *asiento* with long-term securities guaranteed issued by the Cortes of Castile, called *jurros*. While these paid much lower interest than the defaulted *asientos*, they were backed by the regular taxes collected in the cities of Castile and could be easily resold, often at a profit, by the well-organized bankers from Genoa. The Genoese carried on a profitable trade in financing the Spanish war efforts until 1607, when it became clear that none of the wars had paid off.

Losing wars was not the only way the government hobbled the economy, although many of its interventions were occasioned by its fiscal needs. Royal favoritism on behalf of the Mesta, the sheepowners guild, has already been mentioned (see p. 109). This favoritism culminated in a decree in 1501 that reserved in perpetuity for sheep pasturage all land on which sheep had ever grazed, regardless of the wishes of owners. By such measures, the government sacrificed the interests of the cultivators, and ultimately those of the consumers, for the sake of increased taxes from the privileged sheepowners.

The absence of any systematic long-range economic policy is vividly illustrated in the histories of two of Spain's most important economic activities, cereal production and cloth manufacturing. Cereal production, although hindered by the privileges accorded to the Mesta, prospered during the first third of the sixteenth century as a

much of both the increase in population and the mild rise in prices occasioned by the great influx of American treasure. As the price increase accelerated, the government responded to consumer complaints by imposing maximum prices on bread from 1539. Since costs continued to increase, the result was that arable land was devoted to other purposes than growing grain, and the grain shortage became worse. To counteract the shortage the government admitted foreign grain, previously prohibited or subject to high tariffs, duty free, but this discouraged cereal growers even more. Much land went out of production altogether, and Spain became a regular importer of bread grains.

The situation in the cloth industry was much the same. At the beginning of the sixteenth century Spain exported fine cloth as well as raw wool. The expansion of demand domestically and especially in the colonies in America raised costs as well as prices. The supply could not keep up with the increasing demand. In 1548 foreign cloth was admitted duty free, and in 1552 the export (except to the colonies) of domestic cloth was prohibited. The immediate result was a severe depression in the cloth industry. The export prohibition was rescinded in 1555, but by that time the loss of foreign markets and the inflationary cost increases had deprived Spain of its comparative advantage. Spain remained a net importer of cloth until the nineteenth century. Conceivably, with a truly enlightened economic policy, Charles V could have created lasting prosperity for his vast empire by converting it into a free trade area or a customs union. There is no evidence, however, that such a thought ever crossed his mind. In the first place, each region, principality, and kingdom within the empire was conscious of its own traditions and privileges and resisted any innovations from above. More important, from the point of view of the policymaker, the monarch was too dependent on customs revenues to abolish the internal tariffs and tolls that regulated commerce among the various components of the empire. Even after the union of the crowns of Castile and Aragon the citizens of one were treated as foreigners in the other; each maintained its own tariff barriers against the other, and even separate exchange systems. Other Habsburg possessions were in no better position. The merchants and industrialists of the Low Countries owed their substantial penetration of Spanish markets to their superior competitiveness rather than to any special privileges.

Even in their religious policies the Spanish monarchs contrived to damage the well-being of their subjects and weaken the economic bases of their own power. Early in their reign Ferdinand and Isabella obtained permission from the papacy to establish a Holy Office, a branch of the infamous Inquisition, over which they exercised direct royal authority. The initial targets of the Spanish Inquisition were backsliders among the *conversos*, Jews who had converted to Catholicism, in fact or only nominally, even though practicing Jews were still officially tolerated. Many Jews and *conversos* were among the wealthiest and most cultivated of Spanish commoners; their numbers contained many merchants, financiers, physicians, skilled artisans, and other economically successful persons. Some wealthy *conversos* intermarried with the nobility; even Ferdinand had some Jewish blood. The climate of fear created by the Inquisition led many *conversos* and Jews alike to emigrate, taking with them their wealth as well as their talents (Fig. 6-3). Then, in 1492, shortly after the successful conquest of Granada, the Catholic kings decreed that all Jews must either

blants, they had no resources with which to emigrate and became nominal Christians, known as Moriscos. For more than a century they remained, barely tolerated, many still faithful to their original religion, doing much useful labor, especially in the rich agricultural provinces of Valencia and Andalusia. In 1609 another Spanish government, seeking to camouflage the news of another military defeat abroad, ordered the expulsion of all Moriscos. Not all were actually deported, but many were, and the government thereby deprived itself of another badly needed economic resource.

Spain's policies toward its American empire were as short-sighted and self-defeating as its domestic policies. As soon as the nature and extent of the New World discoveries began to be realized, the government imposed a policy of monopoly and strict control. In 1501 foreigners (including Catalans and Aragonese) were prohibited from settling in or trading with the new colonies. In 1503 the *Casa de Contratación* was created in Seville and given a monopoly on trade. All merchant ships had to sail with the armed convoys, as previously described. These convoys were very expensive and inefficient, although they did succeed in one of their principal objectives—protection of the bullion shipments. Not until 1628 was a bullion fleet intercepted, first by the Dutch and then, in 1656 and 1657, by the English, each time provoking a major financial crisis.

These monopolistic and restrictive policies proved so unworkable that the government soon had to back down. In 1524 it allowed foreign merchants to trade with, but not settle in, America. This provided such a bonanza for Italian and German merchants that, in 1538, the government rescinded the policy and restored the monopoly to Castilians. But many of the Castilian firms that participated in the trade through the *Casa de Contratación* were actually mere fronts for foreign, especially Genoese, financiers. From 1529 to 1573 ships from ten other Castilian ports were allowed to trade with America, but they were obliged to register their cargoes in Seville and to land their homeward-bound shipments there; because of the increased costs, this concession accomplished little. Instead, the policies of monopoly and restriction encouraged evasion and smuggling by both Spanish and other shippers. In 1600, as a result of the silting of the Guadalquivir River, which prevented large sailing ships from reaching Seville, the monopoly on American trade was moved to Cadiz, but by anchoring the treasure fleet in a harbor frequented by Dutch, French, and Italian merchants, more and more of the bullion and coins ended up in the rest of Europe instead of Seville.

Policy within the empire was no more enlightened. Intracolony trade was discouraged, although some did take place, especially between Mexico and Peru. The establishment of vineyards and olive orchards were officially prohibited in the colonies for the benefit of domestic producers and exporters. Although a few industries were permitted, such as the silk industry of New Spain (Mexico), the general policy was to reserve the manufactured goods market in the colonies for producers in the metropolis; since Spain's own industries were in more or less continual decline, however, the net effect was to stimulate demand for the products of Spain's European rivals.

The essential absurdity of Spain's colonial economic policies is highlighted by its treatment of its sole Pacific possession, the Philippine islands. Although within

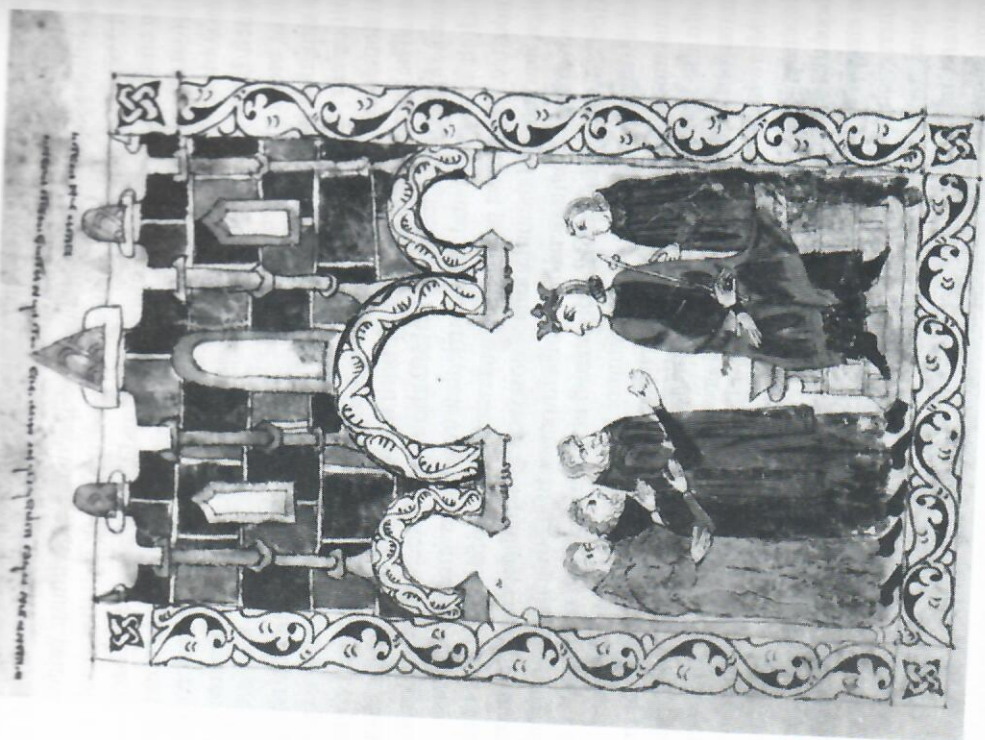


FIGURE 6-3. The Expulsion of the Jews. The illustration shows the king of Castile's advisers urging him to expel the Jews from his kingdom, around 1300. Ferdinand and Isabella actually did so in 1492, with deleterious consequences for their country. (© The British Library)

convert to Catholicism or leave the country. Estimates of the numbers that left range from 120,000 to 150,000, but the damage to the economy was far greater, proportionally, than the ratio of the refugees to the total population.

The monarchs followed a similar policy with respect to their other religious minority, the Muslim Moors. At the capitulation of the Moorish kingdom of Granada (contrary to their almost-simultaneous persecution of the Jews), toward the Moors a decade they began to persecute the Moors as well. In 1502 they decreed the conversion or expulsion of all Moors. Since the majority of Moors were humble agricultural

the Portuguese orbit, as determined by the papal line of demarcation, the Philippines became a Spanish possession by virtue of Magellan's discovery. Filipinos and other Asians carried on trade among themselves and with neighboring Asian areas, including China, but the only trade permitted by the Spanish authorities with Europe was indirect, through Mexico and Spain itself. Each year a single ship (in principle, at least, though there were interlopers), the Manila galleon, set forth from Acapulco loaded mainly with silver from Peru and Mexico and destined eventually for China and other Asian recipients. The round trip required two years; the ship wintered in Manila, where it was loaded with spices, Chinese silks and porcelains, and other luxury products of the East. Goods not sold in the Mexican and Peruvian markets were shipped overland to Vera Cruz, where they were picked up by the *flota* for the trip to Spain. Unsurprisingly, few commodities could bear the high cost of such an itinerary.

Portugal

One of the most remarkable feats of Europe's age of expansion was the achievement by Portugal, a small, relatively poor country, of dominion over a vast seaborne empire in Asia, Africa, and America. At the beginning of the sixteenth century Portugal's population amounted to scarcely more than a million inhabitants. Outside of the few small cities, the economy was predominantly of the subsistence variety. Along the seacoast fishing and salt-panning were the most important nonagricultural occupations. Foreign trade was of minor but growing significance. Exports were almost entirely primary products: salt, fish, wine, olive oil, fruit, cork, and hides. Imports consisted of wheat (in spite of its small population and agrarian orientation, the country was not self-sufficient in regard to bread grains) and such manufactured products as cloth and metalwares.

How did such a small, backward country acquire mastery of such a huge empire so quickly? The question cannot be answered simply or briefly. Many factors were involved, not all of them subject to precise measurement. One was good fortune: at the time Portugal made its breakthrough into the Indian Ocean the polities in that area were unusually weak and divided, for reasons independent of developments in Europe. Another less accidental but nevertheless fortuitous factor was the accumulated knowledge and experience of the Portuguese in ship design, navigational techniques, and all related arts—a continuing legacy of the work and dedication of Prince Henry the Navigator. Yet another factor was more speculative, but important nonetheless: the zeal, courage, and rapacity of the men who ventured across the seas in the service of their God and king, and in search of riches.

In the first flush of their Asian discoveries and success, the Portuguese paid little attention to their African and American possessions. The spice trade and its auxiliary returns promised quick and lavish returns to king and commoner alike, whereas the development of the sultry, savage tropics of Brazil and Africa would clearly be expensive and uncertain long-term ventures. Over the course of the sixteenth century an estimated 2,400 persons, most of them young, able-bodied males, annually sought their fortunes overseas, mainly in the East. In the 1530s, however, the Portuguese

soon became alarmed by the activities of French freebooters along the Brazilian coast and undertook to secure Portuguese settlers for the mainland. The king made land grants to private individuals, not unlike the grants of the English crown to Lord Baltimore and William Penn in the seventeenth century, and hoped in this way to secure settlers at little expense to himself. The early colonies did not flourish, however; the local Indian population, sparse, primitive, and frequently hostile, provided neither markets for Portuguese produce nor reliable labor for the Brazilian economy. Not until the 1570s, with the transplantation of sugarcane from the Madeiras and São Paulo Island and of the techniques for its cultivation with African slave labor, did Brazil become an integral part of the imperial economy. Soon afterward, in 1580, Portugal fell to the crown of Spain, and although Philip II promised to preserve and protect the Portuguese imperial system, it suffered from the depredations of the Dutch and others in both East and West. Portuguese plans for developing and exploiting an African empire were repeatedly postponed until the twentieth century.

The Portuguese crown's legal monopoly of the spice trade provoked mocking references to the "Grocer King" and the "Pepper Potentate," but the reality behind those terms was quite different from what one might suspect. In the first place, Portugal never secured effective control of the sources of the spice supply. True, in the first years of its explosive entrance into the Indian Ocean it did severely disrupt the traditional overland carriage of spices to the eastern Mediterranean, thereby temporarily depriving the Venetians of their lucrative distribution trade, but traditional routes were eventually reestablished, and by the end of the sixteenth century they supported a larger volume of commerce than ever before—larger even than that of the Portuguese fleets. For this there were two principal reasons. First, the Portuguese were simply spread too thin. Even at the peak of their maritime strength in the 1530s they possessed only about 300 oceangoing vessels, and some of those were employed on the Brazilian and African routes. It proved impossible to police the greater part of two oceans with so few men and ships. Second, the crown was obliged to rely either on royal officials for enforcement of its monopoly or on contractors who leased, or "farmed," a portion of the monopoly. In both cases it suffered from inefficiency and fraud. The royal officials, although endowed with extensive powers, were not well paid and frequently supplemented their meager salaries by taking bribes from smugglers or engaging in illicit trading themselves. The crown contractors, of course, had ample incentive to violate their contracts whenever possible.

The spice trade was the most famous branch of commerce that the Portuguese kings tried to monopolize for fiscal reasons, but it was only one of many. Even before the opening of the Cape route the Portuguese crown had monopolized trade with Africa, whose most valuable exports were gold, slaves, and ivory. With the discovery of the Americas the demand for slaves increased enormously, and the Portuguese kings were the first to benefit; the actual slave traders were private contractors who operated under license from the crown, paying it a share of the profits. In the eighteenth century the discovery of gold and diamonds in Brazil presented the crown with a new Eldorado. As before, it tried to monopolize the commerce in these areas and prohibit the export of gold from Portugal, but without success. English warships, which had special status in Portuguese waters because of treaty arrangements, were common vehicles of the contraband trade.

The crown's attempts at monopoly did not stop with the exotic products of India and Africa but extended to such domestically produced staples as salt and soap and, among the most profitable, the tobacco of Brazil. And what the crown could not monopolize it tried to tax. This effort was notable with Brazil's principal export, sugar, but all commodities involved in both international and intra-imperial trade were heavily taxed. At the beginning of the eighteenth century almost 40 percent of the value of goods legally shipped from Lisbon to Brazil represented customs duties and other taxes.

The motive of both monopoly and taxation was, of course, to gain revenue for the crown. But, given the inefficiency and venality of the royal agents, evasion was relatively easy and widespread. Moreover, the higher the rate of taxation, the greater was the incentive for evasion. It was a vicious circle as far as the crown was concerned. As a result the Portuguese kings were forced to borrow, as their Spanish counterparts had. For the most part they borrowed for short terms of time at high interest rates against future deliveries of pepper or other highly salable commodities. Their lenders were most often foreigners—Italians and Flemings—or the king's own subjects, the “new Christians,” a term euphemistically applied to Portuguese citizens of Jewish ancestry. Some of them actually converted to Christianity, but many secretly maintained their old belief and customs, or at least they were widely suspected of doing. King Manuel had ordered the forcible conversion of Jews in 1497 in imitation of the Spanish monarchs, but for several decades no repressive measures were taken to enforce the edict. Indeed, “new” and “old” Christians, Jews and gentiles, continued to live together in harmony and even to intermarry to such an extent that by the end of the sixteenth century it was estimated that as much as one-third of the Portuguese population had some Jewish blood. Eventually, however, Portugal obtained its own branch of the Inquisition, and its zeal in preserving and promoting the one true faith rivaled that of its Spanish counterpart. Citizens were encouraged to inform on one another; the informer's identity was not revealed, and the burden of proof was on the accused. Even such innocent acts as changing into a clean shirt or blouse on a Saturday could be used as “evidence” of proscribed beliefs. As a result of the practices of the Inquisition an atmosphere of mutual suspicion and distrust plagued Portuguese life for centuries, and Portugal lost much wealth and many skilled workers and professional people to more tolerant countries, the Dutch Netherlands in particular.

Central, Eastern, and Northern Europe

The whole of central Europe, from northern Italy to the Baltic, was nominally united in the Holy Roman Empire. In fact, the territory was organized into hundreds of independent or quasi-independent principalities, both lay and ecclesiastical, ranging in size from the estate of a single imperial knight to the Habsburg crownlands of Austria, Bohemia, and Hungary. After the Protestant Reformation, during which many secular and even some ecclesiastical lords adopted the new religion to gain control of church property, the authority of the emperor was sharply curtailed. Even within their own territories the Habsburgs, who were also hereditary emperors, had

difficulty enforcing their authority over regional aristocracies and municipal bodies. The struggle between local particularism and the centralizing tendencies of the more powerful monarchs and princes occupies a large part of the history of early modern Europe, especially that of central and eastern Europe, and in that struggle economic factors sometimes played a crucial role.

In Germany the advocates of economic nationalism propounded a series of principles or maxims that almost deserve to be called a system, or at least a quasi-system. Writers in this tradition are usually referred to as cameralists, from the Latin word *camera*, which in the German usage of that time meant the treasure chest or treasury of the territorial state. Most of those writers were active or former civil servants—that is, servants of the territorial princes who were striving for both political and economic autonomy. Some notion of the tenor of the policies they advocated can be gained from the title of one of the most influential of their books, *Oesterreich über Alles wann es nur will* (“Austria over all if it only will”), published by Philipp W. von Hornigk in 1684. In their concern for strengthening the territorial state they advocated measures that would, in addition to filling the state's coffers, reduce its dependence on other states and make it more self-sufficient in time of war; these measures included restrictions on foreign trade, the promotion of domestic manufactures, reclamation of wastelands, and provision of employment for the “idle poor” (which in some instances amounted to forced labor). In the eighteenth century special professorial chairs in *Staatswissenschaft* (science of the state) were established in several German universities to train future civil servants. For the most part the German states were too small and lacked the necessary resources to become truly self-sufficient; there were, however, a few examples of policies that succeeded in enhancing the power and authority of the territorial rulers, although at the expense of the welfare of their subjects.

The most spectacular instance of a successful policy of centralization is to be found in the rise of Hohenzollern Prussia. It was this success that led some historians and economists to reverse the prevailing condemnation of the policies of economic nationalism (see p. 129). The Hohenzollern dynasty became the rulers of the Electorate of Brandenburg, centered on the city of Berlin, in the fifteenth century. The Hohenzollerns gradually expanded their possessions by means of inheritance, notably by the acquisition of East Prussia in 1618. The Thirty Years' War caused great devastation to this region, but, beginning with the accession of Frederick William, the “Great Elector,” in 1640, a succession of able rulers built Brandenburg-Prussia into one of the largest and most powerful states in Europe, the precursor of modern Germany. The means they used included some of the standard instruments of so-called mercantilist policy, such as protective tariffs, grants of monopoly and subsidies to various fields of industry, and inducements to foreign entrepreneurs and skilled workers to settle in their underpopulated territories (with a notable focus on French Huguenots after the revocation of the Edict of Nantes in 1685); more important for the success of their endeavor, however, was their careful management of the state's own resources. Through centralization of their administration, requirements of strict accountability on the part of the corps of professional civil servants that they built up, punctilious collection of taxes, and frugality in expenditures, they created an efficient state mechanism that was quite exceptional in the Europe of its day.

Their one notable extravagance was their army, which at times accounted for more than half the state budget. A later Prussian general remarked that Prussia was "not a country with an army, but an army with a country that served as its headquarters and food supplier." But, frugal and cautious as they were, the Hohenzollern kings rarely committed their army to battle, and then only for limited engagements. In 1740, for example, young Frederick II ("the Great") launched an unprovoked surprise invasion of Habsburg Silesia, thereby igniting the War of the Austrian Succession, but as soon as the Austrians acquiesced to his occupation of the mineral-rich province, he withdrew from the war, leaving his allies to fight on.

The Prussian kings used their army to their advantage not only militarily and politically, but also economically. Because of its awesome reputation, they were able to obtain subsidies from their allies, thereby avoiding the necessity of borrowing, a process that cursed the reigns of most other absolute monarchs. They also made good use of their crown domains, which included, besides agricultural estates, coal mines, iron foundries, and other productive enterprises; through good management and careful accounting, these domains were made to produce up to 50 percent of total state revenues. As efficient and powerful as the state was, however, the country's economy was only moderately prosperous by the standards of the day. The overwhelming majority of the productive population was still engaged in low-productivity agriculture, and Prussia was far from the great industrial power that Germany would become at the end of the nineteenth century.

At the opposite extreme from the rise of Prussia was the disappearance of the kingdom of Poland. Prior to 1772 Poland was the third-largest state in Europe in area and fourth-largest in population, but in that year its more powerful neighbors, Russia, Prussia, and Austria, began the process of partition that by 1795 had eliminated Poland from the political map. As with the rise of Prussia, the decline and fall of Poland was caused more by military and political factors, such as the weak elective kingship and the *liberum veto*, by which any single member of the *sejm* (parliament) could nullify the actions of the entire session, than by purely economic ones, but the poverty and backwardness of the economy was a contributing factor. About three-quarters of the population were legal serfs, bound to the land and with no rights other than those accorded them by their masters. The Polish nobility was fairly numerous, amounting to about 8 percent of the total population, but the great majority was also poor and virtually landless. Most of the land, the prime source of wealth in the country, was controlled by fewer than two dozen families. In the sixteenth and seventeenth centuries Poland exported large quantities of grain to the West, principally through Danzig to the Amsterdam market, but as agricultural production in the West increased in the eighteenth century, demand for Polish grain declined, and the country reverted to subsistence agriculture.

Although the absence of an effective central authority made a coherent economic policy impossible for Poland, some of its constituent parts did have one. The Duchy of Courland is an example (Fig. 6-4). Under the energetic Duke James (or Jacob) in the mid-seventeenth century (1638-1682), Courland, which occupied a part of the area of present-day Latvia, became the very model of a mercantilist state. James attempted to promote industry by means of protective tariffs and subsidies, built a merchant fleet and a navy, and even purchased the island of Tobago in the West Indies

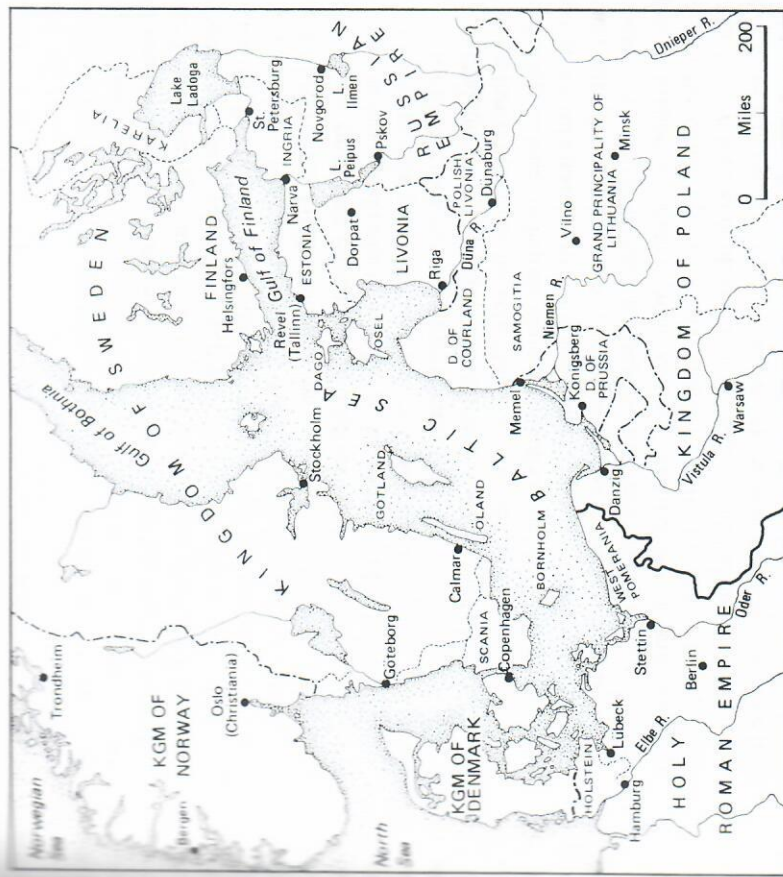


FIGURE 6-4. Courland and its neighbors.

and a small colony at the mouth of the Gambia River in West Africa. This fledgling development was cut short, unfortunately, by the Swedish-Polish war of 1655-1660, during which James was captured and his capital pillaged. Like Sisypheus, he returned to his task after the war, but Courland failed to develop a dynamic economy and disappeared from the map along with Poland in 1795. Courland's experience illustrates the limited effectiveness of deliberate state policy unless it covered a large-enough scale of defensible territory. This would be a continuing problem for all early modern states in Europe.

The limitations on the ability of the state to shape the economy even when its policies were exercised over a large territory are highlighted even more by the history of Russia, the largest and one of the most powerful states in Europe. In the sixteenth and seventeenth centuries Russia developed, politically and economically, largely in isolation from the West. Virtually landlocked, it had very little long-distance trade, although after 1553 a trickle went in and out via the far northern port of Archangel, open for only three months each year. The vast majority of the population engaged in subsistence agriculture, in which the institution of serfdom loomed large and actually increased in severity over the centuries. Meanwhile, in spite of numerous revolts, civil wars, and palace coups, the authority of the tsar grew stronger. In 1696, when

Peter I ("the Great") became sole ruler, his power within the Russian state was unchallenged.

Peter set out deliberately to modernize—that is, to Westernize—his country, including its economy. In addition to such petty measures as obliging his courtiers to wear Western-style clothing and to shave their beards, he traveled extensively in the West, observing industrial processes as well as military fortifications and procedures. He gave subsidies and privileges to Western artisans and entrepreneurs to settle in Russia and practice their crafts and commerce. He built the city of St. Petersburg, his "window on the West," on land recently conquered from Sweden at the head of the Gulf of Finland, an arm of the Baltic Sea. This gave him a more convenient port than Archangel, and he set out to build a navy. Underlying all of Peter's policies and reforms was his desire to expand his influence and territory and to make Russia a great military power. (The country was at war, usually offensive war, for all but two years of Peter's long reign.) To this end he instituted a new and he hoped, more efficient system of taxation and reformed his central administration, whose function was, as he said, "to collect money, as much as possible, for money is the artery of war." When domestic industries could not meet his demand for military goods he set up state-owned arsenals, shipyards, foundries, mines, and cloth factories, staffed in part by Western technicians who were supposed to train a native labor force, but since the native labor supply consisted mainly of illiterate serfs, who were bound to their occupations whether they liked it or not, the effort met with little success. Only in the copper and iron industries of the Ural Mountains, where ore, timber, and water power were plentiful and cheap, did viable enterprises emerge from their withered away. After Peter's death most of the enterprises he had established regressed in that the burden fell mainly on the peasants, yielded inadequate revenue to support the army and the ponderous bureaucracy. One of his successors, Catherine (also "the Great"), was responsible for two innovations in state finance that had deleterious effects on the economy: foreign borrowing and enormous issues of fiduciary (paper) currency. Meanwhile the truly productive forces in the economy, the peasants, toiled away with their traditional techniques, gaining a bare subsistence for themselves after the exactions of their masters and the state.

In the sixteenth and seventeenth centuries Sweden played a role as a great political and military power that is surprising in view of its small population. Its success resulted partly from its abundance of natural resources, especially copper and iron, both of which were essential for military power, and partly from the administrative efficiency of its government. The Swedish monarchs early achieved a degree of absolute power within their kingdom that was unrivaled elsewhere in Europe, even in such absolutist states as France and Spain. Moreover, they used their power wisely on the whole—with the exception of their rash military ventures, which ultimately led to their defeat and retrenchment—at least in the economic sphere. They abolished the internal tolls and tariffs that hindered commerce in other countries, standardized weights and measures, instituted a uniform system of taxation, and undertook other measures that favored the growth of commerce and industry. Not all policies were equally favorable—for example, the restriction of foreign trade to Stockholm and a few other port cities—but on the whole they gave free rein to both

native and immigrant entrepreneurs (especially those of Dutch and Walloon background, who brought special skills and knowledge, as well as capital, to the table) to develop Sweden's resources. In the eighteenth century, after the decline of its political power, Sweden became the leading supplier of iron on the European market.

Italy has been excluded from this survey of the policies of economic nationalism because, for most of the early modern period, it was the victim of great-power rivalries. Repeatedly invaded, occupied, and dominated by the military forces of France, Spain, and Austria, its city-states and small principalities had little opportunity to initiate or execute independent policies. One exception, however, the Venetian Republic, managed to retain both political independence and a modicum of economic prosperity until it was overrun by the French in 1797. At the end of the fifteenth century Venice was at the height of its commercial supremacy, with extensive possessions in the Aegean and Adriatic as well as on the mainland of Italy (Fig. 6-5). The advance of the Ottoman Turks, the discovery of the sea route to the Indian Ocean, and the gradual shift of Europe's economic center of gravity from the Mediterranean to the North Sea all combined to force Venice onto the defensive. The Venetians reacted to changed circumstances by reallocating their capital and other resources. In the sixteenth century they developed an important woolen industry to supplement their already-famous luxury products, such as glassware, paper, and printing. When the woolen industry encountered stiff competition from the Dutch, the French, and the English in the seventeenth century, many Venetian families

FIGURE 6-5. The Port of Venice. The once-major entrepôt of Venice steadily receded in importance in the seventeenth and eighteenth centuries but did not lose its commercial functions entirely. This early-eighteenth-century view of the port is by its native artistic genius, Canaletto. © National Gallery, London/Art Resource, NY.)



invested in agricultural improvements on the mainland. The government, an oligarchy composed of representatives of the most important families, attempted to stave off commercial and industrial decay, but with little success: the average value of Venetian commerce and industry steadily declined. At the end of the seventeenth century production of woolen cloth was less than 12 percent of what it had been at the beginning of the century. Venice stagnated while Europe expanded.

Colbertism in France

The archetypical example of economic nationalism was the France of Louis XIV. Louis provided the symbol—and the power—but responsibility for policymaking and implementation devolved on his principal minister for more than twenty years (1661–1683), Jean-Baptiste Colbert. Colbert's influence was such that the French coined the term *colbertisme*, more or less synonymous with mercantilism as that word is used in other languages, in his honor. Colbert attempted to systematize and rationalize the apparatus of state controls over the economy that he inherited from his predecessors, but he never fully succeeded, even to his own satisfaction. The main reason for this failure was his inability to extract enough revenue from the economy to finance Louis's wars and extravagant court. That, in turn, resulted partly from France's haphazard system of taxation—if it could be called a system at all—which Colbert was never able to reform.

In principle, under the medieval theory of kingship, the king was supposed to be supported by the produce of his own domains, although his subjects, acting through representative assemblies, could grant him "extraordinary" tax revenues in times of emergency, such as war. In fact, by the end of the Hundred Years' War several such "extraordinary" taxes had become permanent parts of the royal revenues. Moreover, by the end of the fifteenth century the king had won the power to raise tax rates and to impose new taxes by decree without the consent of any representative assembly. By the end of the sixteenth century, as a result of increased taxes, price inflation, and the real growth of the economy, royal tax revenue had increased sevenfold in the course of the century and tenfold since the end of the Hundred Years' War in 1453. Even this fiscal bonanza did not suffice to cover the expenses of the Italian campaigns, the long series of wars between the Valois kings of France and the Habsburgs that spanned the first three-fifths of the sixteenth century, and the civil and religious wars that followed. Thus, the kings were obliged to resort to other expedients to raise funds, such as borrowing and the sale of offices.

French kings had borrowed in the Middle Ages, especially during the Hundred Years' War, but not until the reign of Francis I (1515–1547) did a royal debt become a permanent feature of the fiscal system. Thereafter the debt rose steadily, except on those occasions when the crown arbitrarily suspended interest payments and wrote down the value of the principal. The effect of such partial bankruptcies was to make it even more difficult for the monarchy to borrow—but borrow it did, at ever more onerous interest rates. In addition to borrowing, the crown raised revenues through the sale of offices (judicial, fiscal, and administrative). The sale of offices

was not unknown in other lands, but in France it became standard practice. Some authorities aver that it produced as much as one-third of royal revenues; that is probably an exaggeration, but it is safe to say that in many years it produced as much as 10 or 15 percent of those revenues. The practice succeeded in its immediate purpose, but in the long run its effects were wholly deleterious. It created a host of new offices that were without function or whose functions were inimical to the masses (in some instances two or more individuals were appointed to the same office), with increased charges to the government and, ultimately, the taxpayers; it placed in those offices men without competence or even interest in discharging their duties, thus encouraging inefficiency and corruption; and it allowed wealthy commoners access to the *noblesse de la robe*, diverting their wealth from productive enterprise to the uses of the state and exempting them from further taxation.

In spite of the multiplication of offices and officials, the crown was obliged to rely on private enterprise to collect the bulk of its taxes through the institution of tax farmers. These individuals, usually wealthy financiers, contracted with the state to pay a lump sum of money in return for the privilege of collecting certain specified taxes, such as *aides* (excise taxes applied to a wide variety of commodities), the hated *gabelle* (originally an excise tax on salt that later became a fixed impost regardless of the amount of salt purchased or consumed), and the numerous tariffs and tolls that were collected on merchandise in transit, within the country as well as on the frontiers.

It was this system that Colbert wished to reform, especially by abolishing the internal tariffs and tolls, but the crown's need for revenue was ultimately too great, and he could not. In the latter part of the eighteenth century, under the influence of the Enlightenment and the Physiocrats, some of Colbert's successors, notably the economist Anne-Robert-Jacques Turgot, actually attempted to reform the system and create internal free trade, but the opposition of the vested interests, including officials, tax farmers, and the aristocracy, forced him out of office. In the end it was the failure of the fiscal system to produce sufficient revenue that led to the assembly of the Estates-General in 1789, the beginning of the end of the Old Regime.

In addition to their attempts to reform and increase the proceeds of the tax system, Colbert, his predecessors, and his successors tried to increase the efficiency and productivity of the French economy in much the same way that a drill sergeant tries to enhance the performance of his soldiers. They issued numerous orders and decrees with respect to the technical characteristics of manufactured items and the conduct of merchants. They fostered the multiplication of guilds with the avowed intention of improving quality controls, even when their real objective was to obtain more revenue. They subsidized *manufactures royales* both to supply their royal masters with luxury goods and to establish new industries. To secure a "favorable" balance of trade, they created a system of prohibitions and high protective tariffs.

Colbert's historical renown, however, derives from his ambitious but largely unsuccessful attempts to regulate and direct the economy. Colbert was not a great innovator; historical precedents existed for virtually all of his policies. What distinguished his regime, in addition to his comparatively long tenure as the trusted lieutenant of Louis XIV, was the vigor of his efforts and the fact that he wrote copiously about them.

One of Colbert's principal objectives was to make France economically self-sufficient. To this end he promulgated in 1664 a comprehensive system of protective tariffs; when this failed to improve the trade balance he resorted in 1667 to still higher, virtually prohibitive tariffs. The Dutch, who carried a large proportion of French commerce, retaliated with discriminatory measures of their own. Such an ended in a stalemate, and in the peace treaty that followed France was obliged to restore the tariff of 1664.

Colbert's measures of industrial regulation were less directly related to the goal of self-sufficiency, but not entirely foreign to it. He issued detailed instructions concerning every step in the manufacture of literally hundreds of products. In itself, this practice was not new, but Colbert also established corps of inspectors and judges to enforce the regulations, which added considerably to the costs of production. The regulations were resisted and evaded by producers and consumers alike, but, to the extent that they were successfully enforced, they also hindered technological progress. Colbert's Ordinance of Trade (1673), which codified commercial law, was far more beneficial to the economy.

As part of his grand design Colbert also sought to create an overseas empire. The French had already, in the first half of the seventeenth century, established outposts in Canada, the West Indies, and India but, preoccupied with European power politics, had failed to give them much support. Colbert went to the opposite extreme, smothering the colonies with a mass of detailed, paternalistic regulations. He also created monopolistic joint-stock companies to conduct trade with both the East and West Indies (as well as similar companies for trade with the Baltic and Russia, the Levant, and Africa), but, unlike their Dutch and English models, which resulted from private initiative with the cooperation of their respective governments, the French companies were in effect government proxies in which private individuals including members of the royal family and nobility, had been induced or coerced into investing. Within a few years they were all moribund.

Colbert, although a staunch Catholic, supported the limited toleration of the Huguenots granted by the Edict of Nantes. After his death his weak successor acquiesced in Louis's determination to stamp out the Protestant heresy, which culminated in the revocation of the edict in 1685 and the subsequent flight of many Huguenots to more tolerant climes. That, along with the continuation of Colbert's stifling paternalism and Louis's disastrous wars, threw France into a serious economic crisis from which it did not emerge until after the War of the Spanish Succession.

The Prodigious Increase of the Netherlands

Dutch economic policies differed significantly from those of the nation-states previously considered. For this there are two principal reasons. First, the structure of government of the Dutch Republic was quite unlike that of the absolute monarchies of continental Europe. Second, the Dutch economy depended on international commerce to a much greater degree than did that of any of the Netherlands' larger neighbors. The Union of Utrecht of 1579, the agreement among the seven northern

provinces that eventually became the United Netherlands, or the Dutch Republic, was more a defensive alliance against Spain than the constitution of a nation-state. The States General, the legislative body of the republic, concerned itself exclusively with foreign policy, leaving domestic matters in the hands of the provincial states and town councils. Moreover, all decisions had to be reached by a unanimous vote in which each province had one voice; failure to agree forced the delegates to return to their provincial states for consultation and instruction. The provincial states, for their part, were dominated by the chief towns. The towns were governed by self-perpetuating town councils of between twenty and forty members, who were the effective rulers (the burgher-oligarchs) of the Dutch Republic. Originally the members of this oligarchy had been selected from among the wealthier merchants of the towns (at least in the maritime provinces of Holland and Zealand; in the less urbanized provinces of the east and north the provincial nobility and well-to-do farmers played more prominent roles). There was a general tendency, pronounced by the middle of the seventeenth century, for the members of this ruling group, known as "regents," to be drawn from a *rentier* class of landowners and bondholders, rather than the ranks of active merchants. Nevertheless, the regents were usually descended from merchant families, intermarried with them, and were conscious of and responsive to their needs and desires. (See Fig. 6-6.)

The Dutch established their mercantile preeminence by the beginning of the seventeenth century, and it continued to grow until at least the middle of the century. The bases of Dutch commercial superiority were the so-called "mother trades," those that connected the Dutch ports with others of the North Sea, the Baltic, the Bay of Biscay, and the Mediterranean. Within that region Dutch shipping accounted for as much as three-quarters of the total shipping. From the Baltic they brought grain, timber, and naval stores to be distributed throughout western and southern Europe in exchange for wine and salt from Portugal and the Bay of Biscay; their own manufactured goods, mainly textiles; and herring. The herring fishery occupied a unique place in the Dutch economy, with as much as one-quarter of the population depending on it either directly or indirectly. Dried, smoked, and salted herring was in great demand in a Europe perennially short of fresh meat. As early as the fifteenth century the Dutch had perfected a method of curing the fish at sea, which allowed their fishing fleets to remain abroad for several weeks instead of returning to port every night. Fishing in the North Sea off the coasts of Scotland and England, they soon undercut the Hanseatic and Scandinavian fisheries in the Baltic and distributed their catch up the German rivers and in France, England, the Mediterranean, and the Baltic itself.

The Dutch specialized in carrying the goods of others, along with their herring exports, but they also exported some other products of their own. Dutch agriculture, although it occupied a far smaller proportion of the labor force than elsewhere, was the most productive in Europe and specialized in high-value produce such as butter, cheese, and industrial crops. The Netherlands lacked natural resources such as coal and mineral ores, but it imported raw materials and semifinished goods, such as rough woolen cloth from England, and exported them in finished form. The shipbuilding industry, developed to a high level of technical perfection, depended on timber from the Baltic; it supplied not only the Dutch fishing, merchant, and naval



FIGURE 6-6. A Dutch merchant. Daniel Bernard, a prosperous Dutch merchant of the mid-seventeenth century, is the subject of this portrait by Bartholomeus van der Helst. (Helst, Bartholomeus van der; Dutch painter; 1613–1670. "Portrait of Daniel Bernard," 1669. (Portrait of the Amsterdam merchant Daniel Bernard; 1626–1704). Oil on canvas, 124 × 113 cm. Photo: akg-images)

fleets, but those of other countries as well. Similarly, the sailcloth and cordage industries obtained flax and hemp from abroad.

The northern Netherlands, especially Holland and Zealand, benefited in great measure from free immigration from other parts of Europe. In the immediate aftermath of the Dutch revolt large numbers of Flemings, Brabanters, and Walloons, of whom a disproportionate number were merchants and skilled artisans, flooded into the northern cities. The ease with which Amsterdam achieved its rank as the principal entrepôt of Europe was partly a result of the influx of merchants and financiers from fallen Antwerp, who brought both their capitalist know-how and their liquid capital. In subsequent years the Netherlands continued to gain both financial and human capital by the inflow of religious refugees from the southern Netherlands; Jews from Spain and Portugal; and, after 1685, Huguenots from France. These migrations both

symbolized and contributed to a policy of religious toleration in the Netherlands, unique in its time. Although Calvinist fanatics occasionally sought to impose a new religious orthodoxy, the merchant oligarchs succeeded in maintaining religious as well as economic freedom for Catholics and Jews as well as Protestants.

The Dutch concern for freedom was real, particularly with respect to freedom of the seas. As a small maritime nation surrounded by vastly more populous, powerful neighbors, the Netherlands (led, as usual, by the province of Holland and the city of Amsterdam) resisted the pretensions of Spain to control the western Atlantic and the Pacific oceans, of Portugal to the South Atlantic and Indian oceans, and of Britain to the "British Seas" (including the English Channel). The Dutch jurist Hugo de Groot (Grotius) wrote his famous treatise, *Mare Liberum* ("Freedom of the Seas"), destined to become one of the foundations of international law, as a brief in the negotiations between the Dutch and the Spanish that led to a truce with Spain in 1609. In the frequent, more or less continual, wars of the seventeenth century, the Dutch insisted on their rights as neutrals to carry merchandise to all combatants and were prepared to make war themselves to protect those rights. (For that matter, individual Dutch merchants were not above trading with the enemy, a practice that was tacitly accepted by the government.)

The Dutch commitment to freedom in matters of commercial and industrial policy was slightly more equivocal. Generally speaking, the cities (who were the effective units of the state) followed free trade policies. No tariffs encumbered exports or imports of raw materials or semifinished goods, which were to be processed and reexported; tariffs and taxes on consumer goods were established for the purpose of revenue, not protection of domestic industries. The trade in precious metals, in particular, was entirely free, in striking contrast to the policies of other nations. Amsterdam, with its bank, bourse, and favorable balance of payments, quickly became the world emporium for gold and silver; it has been estimated that between one fourth and one-half of the annual imports of silver from the Spanish Empire eventually wound up in Amsterdam, even during the Dutch War for Independence.

Freedom was also the rule in industry. Although guilds existed, they were neither as widespread nor as powerful as in other countries, and most major industries operated entirely outside the guild system. More restrictive were the regulations imposed by the larger towns and cities on their surrounding districts, which prevented the growth of rural industries. The major exception to the absence of regulation in Dutch trade and industry was the government-sanctioned "College of the Fishery," which regulated the herring fishery. The ships of only five cities were permitted to take part in the "Great Fishery" (as opposed to the local fresh-herring fisheries for domestic consumption). The College licensed vessels to control quantity and imposed strict quality controls to maintain the reputation of Dutch herring. These restrictive policies paid handsomely as long as the Dutch maintained their near-monopoly in the European market, but as other nations gradually adopted Dutch technologies the policies contributed to the stagnation and eventual decline of the herring trade, which was symptomatic (and in part a cause) of the decline of the Dutch economy as a whole.

The most striking departure of the Dutch from their general rule of freedom was with respect to their colonial empire. As the English ambassador to the Netherlands

truly stated in 1663, "It is *mare liberum* (open seas) in the British Seas but *mare clausum* (closed seas) on ye coast of Africa and in ye East Indies." In contrast to Spain and Portugal, in which trade with the overseas parts of the empire was regarded as a royal monopoly, the States-General of the Netherlands turned over not only the control of trade but also the powers of government to privately owned joint-stock companies, the East India Company for the Indian Ocean and Indonesia, and the West India Company for the west coast of Africa and North and South America. Although chartered initially as purely commercial ventures, the companies soon discovered that to succeed in competition with Portuguese, Spanish, English, and French rivals, to say nothing of the pressures exerted by the aspirations and desires of the peoples with whom they wished to trade, they needed to establish territorial control. To the extent that they were successful in this, they became "states within a state"; monopoly of trade, with respect to both their own nationals and competition with other nations, naturally followed.

Constitutional Monarchy in Britain

Economic policies in England (and, after the union of the Scottish and English parliaments in 1707, in Great Britain) differed from those of both the Netherlands and the continental absolute monarchies. Moreover, whereas the general character of economic policies in other European nations remained more or less constant from the beginning of the sixteenth to the end of the eighteenth century, those of England and Britain underwent a gradual evolution corresponding to the evolution of constitutional government. Henry VIII (r. 1509–1547) was as much an absolute monarch in England as any of his fellow sovereigns were in their countries. But whereas royal absolutism increased in most continental countries in the sixteenth and seventeenth centuries, a contrary development occurred in England, resulting in the establishment of a constitutional monarchy under parliamentary control after 1688.

Another contrast between England and the Continent illuminates the nature and consequences of economic policy. In Spain and France, for example, the fiscal demands of the crown made it impossible for the government to consistently pursue a rational policy of economic development. In England the fiscal demands of the crown brought it into repeated conflicts with Parliament until the latter finally triumphed. Unlike representative assemblies on the Continent, the English Parliament had never given up its prerogative to approve new taxes. Although economic and financial questions were not the only, or even the most important, causes of the English Civil War, Charles I's attempt in the 1630s to govern without Parliament and to collect taxes without parliamentary approval was a major factor leading to the outbreak of armed insurrection. Similarly, after the Stuart dynasty was restored in 1660, the profligacy of Charles II and James II and their financial chicanery (e.g., the "Stop of the Exchequer" of 1672, in which the government diverted revenues intended for the repayment of royal debts to the prosecution of an unpopular war with the Dutch) exacerbated religious and constitutional problems. After the installation of William and Mary in 1689 as constitutional monarchs Parliament took direct

control of the government's finances and in 1693 formally instituted a "national" debt distinct from the personal debts of the sovereign.

The so-called Glorious Revolution of 1688–1689 constitutes a major turning point not only in political and constitutional history, but in economic history as well. In the matter of public finance alone, the 1690s saw, in addition to the establishment of a funded debt, the creation of the Bank of England, a recoinage of the nation's money, and the emergence of an organized market for public as well as private securities. The success of the new financial system was not immediate; it was wracked in the early years by a number of crises, culminating in the famous South Sea Bubble of 1720. By the middle decades of the eighteenth century, however, when Britain was engaged in a series of both European and colonial wars with France, its government could borrow money at only a fraction of the cost that its rival faced. Moreover, the ease, cheapness, and stability of credit for public financing reacted favorably on private capital markets, making funds available for investment in agriculture, commerce, and industry.

The stark contrast between British economic performance before 1688–1689 and the country's economic performance afterwards has led many historians and economists to identify the passage of the constitution that defined the respective roles of the new monarchs and the existing Parliament as the critical event of British economic history. True, before William and Mary the British Isles suffered like the rest of Europe from poor harvests and recurring plagues during the seventeenth century, and they had played little role in the great power struggles between France and Spain or the Holy Roman Empire while absorbed in their own civil wars. After the Glorious Revolution, military successes continued with only a minor break in 1776–1783 as Great Britain rose to become the leading economic and military power of Europe by 1815. Nevertheless, to establish an enduring "credible commitment" between the constitutional monarchy and the British public took more than the initial financial arrangements of the 1690s, most of which had been anticipated by earlier Parliaments but not allowed to come to full fruition. Multiple efforts by successive Parliaments engaged in common efforts to preserve the welfare of the realm under Protestant rulers after Henry VIII were required before Britain could proclaim success as the world's leading economy at the Crystal Palace Exhibition of 1851.

There were some stumbles along the way. Early laws required corpses to be buried in woolen shrouds at the behest of the woolen industry (what better way to stimulate demand for its products than to bury them?) and decreed more "fish days" (on which meat could not be consumed) for Protestant than for Catholic England to stimulate the fishing industry. The Statute of Artificers of 1563 that tried to regulate wages nationally had to make exceptions for certain cities and occupations and, most important, left enforcement to the discretion of local justices of the peace, who typically were more concerned with keeping local peace than with enforcing central authority. It may be that the Poor Law of 1601, by providing benefits to local workers unable to find employment, provided an additional offset to the restrictions on labor mobility imposed by the Statute of Artificers. Both laws remained on the books into the nineteenth century, so while their intent was criticized by classical economists, their enforcement was sufficiently lax to allow Britain's population and productivity to grow.

Another example of mercantile legislation that classical economists criticized, however, may have had beneficial long-term consequences for the British economy. In the latter part of the seventeenth century the East India Company began importing inexpensive, lightweight, brightly printed cloths from India, called calicoes, which quickly became popular. The woolen industry in 1701 persuaded Parliament to pass the first Calico Act, prohibiting the importation of printed cotton cloth. A new industry quickly sprang up, the printing of imported plain cotton goods. The woolen industry again became alarmed, and in 1721 Parliament obligingly passed a second Calico Act, which forbade the display or consumption of printed cotton goods. This, in turn, stimulated a domestic cotton textile industry based on imported raw cotton, which eventually became the cradle of the so-called Industrial Revolution. By the end of the century the manufacture of cotton had displaced that of woolen goods to become Britain's leading industry.

The most famous and effective of all the policies of parliamentary Colbertism were the Navigation Acts. Even Adam Smith granted them his grudging admiration, but on the grounds of national defense, for he explicitly noted that they decreased national income. Navigation laws, the general purpose of which was to reserve a country's international trade for its own merchant marine, were not unique to England or, in England, to the seventeenth century. Almost all countries had them; the first such law was passed in England in 1381 and was repeated frequently thereafter. Generally speaking, however, such laws were ineffective for two reasons: they lacked adequate enforcement mechanisms and, more fundamentally, the merchant marines they were intended to benefit lacked capacity and competitive ability. In 1651, however, the Long Parliament of the Commonwealth government passed a law that was intended not only to protect the English merchant marine but also to deprive the Dutch of their near-monopoly of both shipping and fishing in English waters. The Dutch were sufficiently concerned that they declared war the following year. Although the Navigation Acts were not the only reason for the declaration, their repeal was one of the objectives for which the Dutch argued, unsuccessfully, in the negotiations that ended the stalemated war. In 1660, after the restoration of Charles II, Parliament renewed and strengthened the laws. As amended from time to time thereafter, the Navigation Acts not only sought to protect the English merchant marine and fishing fleet but also became the cornerstone of England's colonial system.

Under the terms of the laws all goods imported into Great Britain had to be carried in either British ships or ships of the country from which the goods originated. (British ships were defined as those of which the owners, master, and three-fourths of the crew were British subjects. The laws also tried to protect the shipbuilding industry by requiring that the ships be built in Britain, but that provision proved difficult to enforce, and for many years Dutch shipbuilders supplied a considerable proportion of the British merchant fleet.) Moreover, even British ships were required to bring goods directly from the country of origin, rather than from an intermediate port; in this way the laws sought to weaken Amsterdam's position as an entrepôt as well as to cut into the Dutch carrying trade. The coasting trade (from one British port to another) was reserved entirely for British ships, as was the importation of fish. Trade with the British colonies in North America, the West Indies, and India also had to be carried in British boats. (Colonial ships were regarded as British if they met

the previously noted stipulations.) In addition, all colonial imports of manufactured goods from foreign countries (e.g., metalwares from Germany) had to be landed first in Great Britain; in effect, this reserved the colonial market for British merchants and manufacturers. Likewise, the staple colonial exports, such as tobacco, sugar, cotton, dyestuffs, and eventually many other commodities, had to be shipped through Great Britain, rather than directly to foreign ports.

The Navigation Acts were not easily enforced, especially in the colonies; more than one New England fortune grew on the profits of illicit trade. Although the laws were intended to injure the Dutch as much as benefit the English, the Dutch maintained their maritime and commercial supremacy until well into the eighteenth century; even then their decline was relative rather than absolute, and a result more of other causes (especially warfare) than of English competition. Nevertheless, the Navigation Acts probably did promote the growth of the English merchant marine and maritime trade, as they were intended to do (but, as Adam Smith pointed out, at a cost to British consumers). They could not have done so, however—as earlier, similar legislation had not—if English merchants and shippers had not already become involved in the aggressive pursuit of foreign markets and were thus willing and able to take advantage of the privileges the laws conferred and the protection of trade routes provided by the Royal Navy.

The Navigation Acts had yet another, unintended, effect: the loss of a large part—and the economically most progressive and prosperous part—of the “old” British Empire (Fig. 6-7). Although they were not the sole or even the most important cause of the American Revolution, they were at the heart of the “old colonial system,” and for most Americans they symbolized the disadvantages, real and imagined, of colonial dependence. From their parlous beginnings in the early seventeenth century, England's North American colonies had grown prodigiously. In numbers alone the record is impressive: from only a few thousand in 1630, the population exceeded a quarter of a million by the beginning of the eighteenth century and 2 million on the eve of the revolution. The sinister counterpart of this achievement, however—the displacement and eventual extinction of most native Americans and the enslavement of thousands of black Africans—must be acknowledged and deplored.

The growth of income and wealth was even more impressive than the growth of population, as, after the suffering and disasters of the early years, the colonies specialized along lines of comparative advantage and traded extensively with one another, with the mother country, and, illegally, with the Spanish Empire and parts of continental Europe. Virginia and the Chesapeake Bay area specialized in tobacco; South Carolina in rice and indigo; and the Middle Atlantic colonies in foodstuffs, some of which they sold to the southern colonies and New England. The latter had a more diversified economy, with commerce and the carrying trade being especially important. Although the Navigation Acts governed colonial commerce, enforcement was not especially effective until after the Seven Years War (1756–1763); even then it was not terribly burdensome, just enough to give those who sought political independence for other reasons a rallying cry.

The first royal charter in 1606 to establish two colonies in Virginia gave the colonists powers to lay claim to and divide up any resources they found; these resources were subject only to normal property taxes paid to the monarch, with no feudal

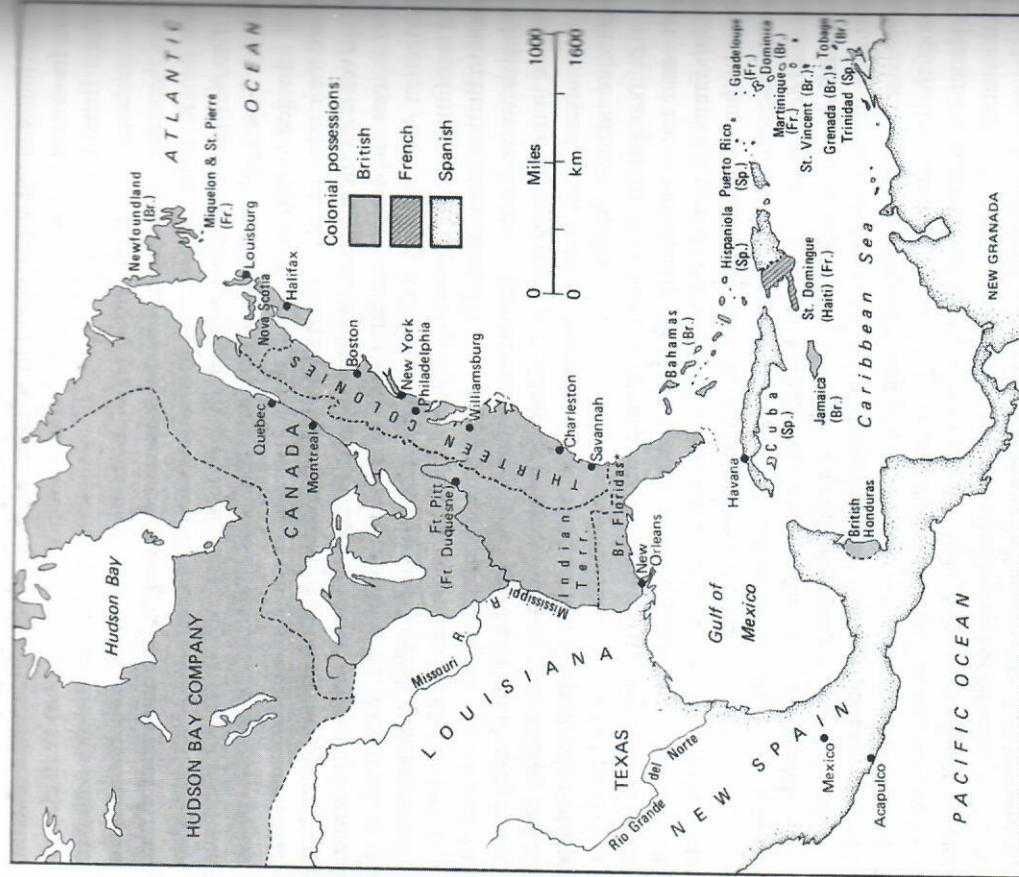


FIGURE 6-7. Colonial possessions in North America, 1763. Florida was a British colony from 1763 to 1780.

obligations. This provision provided an "incentive compatible contract" between king and colonist, as the king could claim a fixed tax on the land, but the colonist could keep as personal gain whatever else he might produce from the property. Further, once a council of thirteen proprietors was selected from among the colonists, the body, viewed as a corporation, could create a coinage for trade, collect customs duties at a low fixed rate to use for public purposes, and maintain a militia for defense. All these powers went far beyond anything previously given to a corporation in Britain. A second charter in 1609 expanded the authority of the council to name or discharge any and all "Governors, Officers, and Ministers, which already have been made, as also which hereafter shall be by them thought fit and needful to be made or

and for the government of the said Colony and Plantation." The council's authority was not absolute, however, as the charter granted the governor "full power and authority to use and exercise Martial Law in cases of rebellion or mutiny." A third charter for Virginia in 1611 simply expanded the range of powers of the colony's council and governor to include offshore islands within 300 leagues of the coast. Therein lay the potential for future conflict between the sovereign power exercised by this offshore colony and the pursuit of profit, which was the motivation for most colonists to migrate to the New World.

To summarize, in Britain the growth of parliamentary power at the expense of the monarchy brought with it better order in the public finances, a more rational system of taxation than was found elsewhere in Europe, and a smaller state bureaucracy. The ideal was still that of a "regulated" economy, as on the Continent, but the means of regulation were quite different. Parliamentary control was most effective in economic relations with the outside world (facilitated by Britain's island nature), and Parliament followed a policy of strict economic nationalism. Domestically, although Parliament wished to control the economy, it generally lacked the ability to do so. As a result British entrepreneurs enjoyed a degree of freedom and opportunity that was virtually unique in the world. Further, American entrepreneurs enjoyed even greater opportunities for the pursuit of profit, even encroaching on the East India Company's trade with China and the South Sea Company's pursuit of whales.